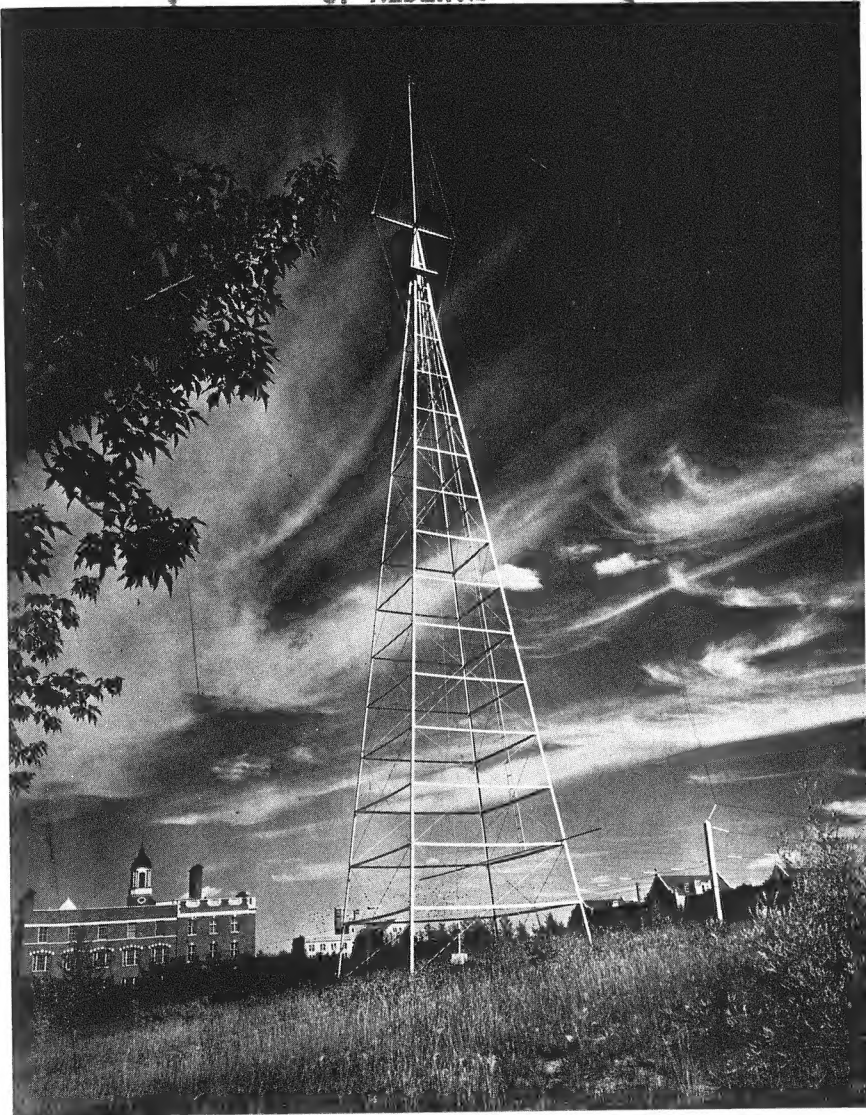


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NUMBER 3

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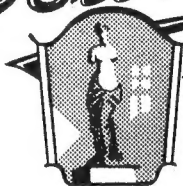
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## The Living God

by S. W. Dyde

Let us plunge into the question of change as applied to God. Plato succeeds in summing up his brand of theology in two short sentences: (1) God is good, and (2) God is unchangeable; and he adds that as God is absolutely perfect, if He were to change at all, He must change for the worse (*Republic*, 381). A more modern statement of the same idea is to be found in the Westminster Confession in its definition of God as "a spirit, infinite, eternal, and unchangeable in his being, wisdom, power, holiness, justice, goodness and truth." But the advocates of the immutable have not got it all to themselves. Amongst the Ancients Heraclitus is the champion of ceaseless change. "Everything flows" (*πάντα ῥεῖ*), "Everything is Becoming" (*πάντα γίνεται*) he insists. "Into the same river we go down, and we do not go down; for into the same river no man can enter twice." Heraclitus is supported by modern thinkers, especially Bergson, who maintains that the Universe is unfinished and incomplete, and by modern poets and writers.

"The hills are shadows, and they flow

From form to form, and nothing stands,"

sings Tennyson (*In Memoriam*, cxxiii); H. G. Wells chooses *πάντα ῥεῖ* as the text for one of his works, *The World of William Clissold*; and Walt Whitman proclaims: "The Lord advances, and yet advances" ("Faces" in *Leaves of Grass*, p. 354). Thus there are two opposing parties, one contending that God or the Ultimate Reality is unchangeable, the other that God is in continuous change. Shall we side with one of these schools of thought, or shall we attempt to reconcile them?

As an answer to this question, I beg to introduce you to what I am calling "The Ladder of Change," a ladder that has a number of rungs. The first or lowest rung is, let us say, *Locomotion or Change of Place*. It may be that every change of place is accompanied by other less noticeable changes such, for example, as friction, but these other changes we may perhaps ignore for the time being, remembering, however, that we are ignoring them. We may thus mount to the second rung, namely *Chemical Change*. It is probably true that every chemical change involves change of place. We do not kick down the first rung in climbing to a second; but the outstanding feature of this second rung is something which cannot, I think, be viewed as nothing more than change of position. If that be admitted, we may climb to change number 3, namely, *Growth*. Some thinkers are prepared to argue, I believe, that growth is no more than a form of chemical change. Even so, it must surely be regarded as a very special form, involving life and reproduction. Let us, then, mount to the fourth rung, namely *Evolution*, a change embracing a process and a goal. This change has been defined as Natural Selection, or Survival of the Fittest. Hitler in *Mein Kampf* (Introduction, p. xi) pinned his faith to



this form of change, saying, "Neither the individual nor society could escape Nature's decree, that the fittest alone survive." This view has been challenged by those who contend that the nature of evolution is adjustment, not elimination. But whether we follow or reject Hitler, we give Evolution a position on our ladder of change. The next rung may be described as *Development*, a change differing from Evolution by the prominence it gives to the conception of an end or conscious objective. Education, e.g., involves an end or purpose, not blindly selected by nature, but more or less intelligently sought.

On the next and final rung we reach a change which has been named by Plato *Self-transformation* (*Rep.*, 381) and by Spinoza *Causa Sui* or self-cause. In accordance with this conception, reality is the cause of itself. It is cause and effect in one. It is self-completing and at the same time self-surpassing, or, to use Aristotle's language, it is *δύναμις* (*Dunamis*) and *ἐνέργεια* (*Energeia*), end and beginning in one. It is realization and potentiality, fulfilling powers belonging to itself, while at the same time marking a forward path or blazing a trail, a change to be found in all mature intelligence. Modern theology has combined this self-finishing and self-exploring in one word *Self-transcendence*.\* We thus think of Reality or the Universe as reaching an end and at the same time advancing beyond it by virtue of capacities inherent in itself; and such a reality we may call God.

Now, if we admit that the Universe or God changes, not because it is moved by any foreign force, but only because it is self-moved or self-transformed, only because the end or goal is a continuous realization of power which He of necessity possesses, we can then perhaps regard as true the seeming contradiction that God or Reality changes and also does not change, that He is not a marble statue, but the living God, one whose attributes are not the opposite of the attributes of man's mind, but their fulfilment, a deity who is touched with a feeling of our infirmities, and is deity only because He is so touched, a dynamic not a static divinity.

Without enlarging further on this conception, let us hasten to indicate one or two necessary corollaries, and first as to Creation. (1) Creation must be thought of as present and continuous, not as creation out of nothing (*Catechism*), or as creation out of chaos ("the heavens and earth rose out of chaos"—Milton's *Paradise Lost*, I, 9-10), but, to use Descartes' words, as creation out of Himself: "God is the creator of all things that are out of Himself" (*Meditation III*). Creation is as much a feature of God today as at any time past.

(2) In the next place we obtain an interesting idea of the Perfection of God, not as something finished and complete, folded and put away, nor yet as something incomplete, but as a steady triumph over incompleteness by the exercise of powers inherent in Himself. Perfection, therefore, is not

---

\*Reinhold Niebuhr, who was honored by Harvard the other day with the degree of D.D., is an advocate of this interpretation of God

stagnation or rest, but, as Tennyson says, a "Stepping-Stone." Dunamis becomes Energeia, and in turn this Energeia becomes a new Dunamis.

"And I said to my spirit . . . Shall we be filled and satisfied then?

"And my spirit said, 'No, we but level that lift to pass and continue beyond'.—(Walt Whitman, "Song of Myself," 46.)

(3) In the third place we are led to regard all things *Sub Specie Aeternitatis*, in the light of eternity, inasmuch as all things are created by God. By this we are not to understand that theology is at odds with science, but that theology provides an underlying idea. Tennyson's "Flower in the Crannied Wall" is an illustration. The poet looks upon all obtainable facts regarding the flower as contributing to a knowledge of God. Whitman has the same conviction. He writes:

"A child said, 'What is the grass?' fetching it to me with full hands;

'I guess,' answered the poet, 'it must be the flag of my disposition, out of hopeful green stuff woven;

Or I guess it is the handkerchief of the Lord

A scented gift and remembrancer designedly dropt'."

—*Song of Myself*.

But it is to the speech of the Spirit of the Earth (in Goethe's *Faust*, 501-10), translated by Carlyle, that we must go for the most complete picture. The dazed and astonished Faust hears the Spirit of the Earth, the Erdgeist, announce its manifold activity:

"In Lebensfluten, im Thatensturm,

Wall' ich auf und ab

Wehe him und her!

Gebürt und Grab,

Ein ewiges Meer

Ein wechselnd Weben

Ein glühend Lebén,

So schaff' ich am sausenden Webstuhl der Zeit

Und wirke der Gottheit lebendiges Kleid."

which I have translated:

"On life's changing tide,

In the storm of deed,

Up and down I ride,

To and fro I speed.

Birth and the Grave,

A shoreless stream;

Ebb and flow of the wave—

Life's ruddy gleam:

Thus of time's whizzing loom the swift shuttle I hold,

And ceaselessly God's living raiment unfold."

Thus, according to Goethe, the varied life of man, when fully grasped, is the visible garb of God, or, as Carlyle puts it, "The garment of God thou seest Him by."

Recently (April, 1944) there has appeared a new theological magazine named *Theology Today*. Its motto is, "The life of man in the light of God." We are not expected to agree with all that is contained in this magazine, but we are expected to sympathize with its general position, namely that while the life of man is interpreted in Anthropology, Ethnology, etc., it is only completely unveiled in the light of God, *Sub Specie Aeternitatis*, to which each of these sciences makes a contribution.

Lastly let me refer for a brief moment to the view that God is the creator of all that is, a view long since suggested in Stoic-Christian theology. St. Paul, standing on Mars Hill in Athens, quoted the Greek Stoic poet, Cleanthes, who sang in his hymn to Zeus, ἐκ σοῦ γὰρ γεγόμεσθα, "For we are your offspring." (Long's translation of Epictetus, p. 31.) This faith is quoted by Paul (*Acts*, 17:28), who also puts the same thought in a different way, αὐτοῖ γὰρ ἐσμεν ποίημα (*Ephesians*, 2:10), "We are his creation, his poem," evidently endorsing Cleanthes a second time.

Let us add to the view of Cleanthes, the view that as God is the creator of all things out of Himself, man is the blood-brother of all that is; while we can say, "I am what I am," we can also say, "I am what I am not." Hence Goethe pleads with the god Mercury to enlarge his personality:

Vermögt ihr mich auszudehnen,  
Zu erweiten zu einer Welt,  
"Be pleased to extend me, to widen me to a world."

*Prometheus*, 42-3

And Whitman writes:

"There was a child went forth every day,  
And the first object he looked upon, that object he became

. . . . .  
The early lilacs became part of this child

. . . . .  
And all the changes of city and country  
Wherever he went." *Assimilations*, p. 185.

Perhaps the outstanding exponent of this view is Wordsworth, many of whose poems could be quoted. He writes:

"And 'tis my faith that every flower  
Enjoys the air it breathes." *Lines Written in Early Spring*.

. . . . .  
"The music in my heart I bore  
Long after it was heard no more." *Solitary Reaper*.

. . . . .  
"And then my heart with pleasure fills  
And dances with the daffodils." *I wandered Lonely as a Cloud*.

. . . . .  
"His daily teachers had been woods and rills."  
Song *At the Feast of Brougham Castle*

. . . . .

"The Being that is in the clouds and air  
That is in the green leaves among the groves,  
Maintains a deep and reverential care  
For the unoffending creatures whom he loves." *Heartleap Well*

. . . . .  
"And beauty born of murmuring sound  
Shall pass into her face." *Three Years She Grew.*  
and many more.

When Theology is regarded in this way, it forms, I believe, a basis for Ethics. But that leads us away to another country, whither we cannot now follow it.



## *Forest Tree Breeding*

L. P. V. JOHNSON

When the subject of forest tree breeding is broached to intelligent, well-informed people, it is a very common thing to find them more or less aware of some of the adverse conditions, botanical and economic, which have placed the forest tree among the last of economic plants to receive serious attention from the plant breeder. Their understanding of the problems facing the forest tree breeder is contained, essentially, in two questions: First, how can you, the breeder, hope to achieve results in your lifetime when, because of the long period between generations, it is impossible for you to work with more than one, or at most two, hybrid generations during your active career? Second, even if you were able to breed a superior tree, how, since forests in the larger sense are not planted or controlled as to growing stock, would you be able to utilize it under practical forest conditions?

These are very significant questions which form common ground for both reader and author. Across this ground the subject will be approached. We shall deal with the first question as the Time Problem, and with the second as the Utilization Problem.

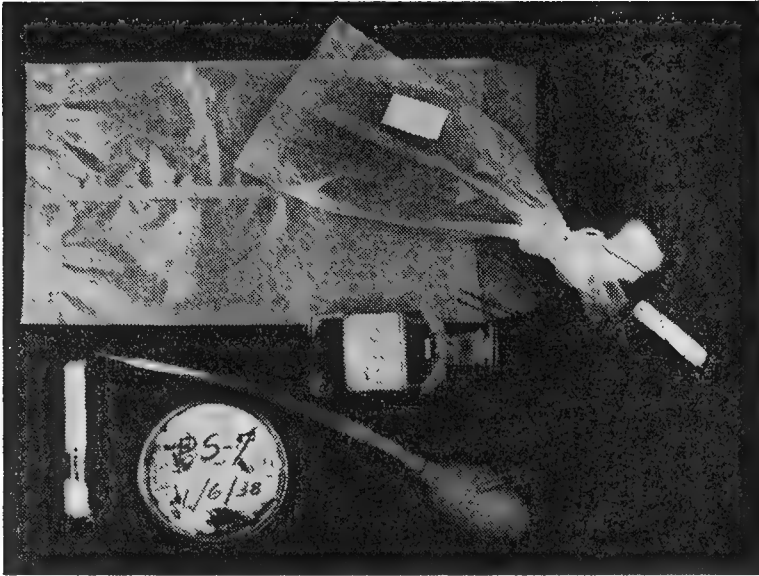
### *The Time Problem*

The best means of overcoming the time problem, introduced by the long period between generations, is to use the first generation, or  $F_1$ , hybrid. There are disadvantages in this method: the dominance interactions, for example, may be in the wrong direction. This may be illustrated by assuming that in an attempt to produce a rust resistant pine, you cross an exotic species (resistant) with our native white pine (susceptible) and find the hybrid susceptible. This means that rust susceptibility is dominant, therefore expressed in the  $F_1$ , and that you must wait for the second, or segregating, generation in order to obtain resistant forms. The method, therefore, has limitations, and is best applied to those characters whose desirable expression happens to be dominant, or where an intermediate expression (incomplete dominance) of the character may be used.

On the other hand, the  $F_1$  hybrid has one big advantage: it possesses hybrid vigour, a fact which to a considerable extent compensates for the disadvantages mentioned above. This phenomenon is common in forest tree hybrids, being expressed as a greater rate and/or ultimate extent of growth than that found in either parent. Where not conducive to poor quality, hybrid vigour is a very valuable property in forest trees.

One thing more must be understood about the  $F_1$ : it does not breed true from its own seed. This difficulty may be overcome in two ways, by vegetative reproduction (cuttings, etc.) and by large-scale hybrid seed production (crossing of the two parents).

Vegetative reproduction is easily accomplished in many species of forest trees, but is difficult or impossible in others. The tree breeding program in



**Cross pollination.** Pollen is kept in petri dish stored in desiccator, and is prepared for use by charging a small, pointed glass tube. At time of female flower receptivity, pollination is effected by attaching an atomizer bulb to the glass tube, piercing the inner bag and injecting pollen by air blast. Hole in inner bag is sealed with adhesive tape and outer protective bag replaced. A metal label identifying the pollen (Scotch pine in this case) is attached to the branch below the bags. Methyl hydrate is used to sterilize equipment before changing to another kind of pollen.

Canada has given a good deal of attention to this form of propagation, with especially notable results in spruce and pine. A considerable number of common horticultural plants are vegetatively-propagated  $F_1$  hybrids, for example, potatoes, hybrid tea roses, nearly all named varieties of gladioli, peonies, dahlias, etc.

Large-scale hybrid seed production would be easy in some plants, hard in others. The production of hybrid seed corn is, for example, extremely simple, requiring only that the male and female parents be grown in alternate rows and that the female parent be de-tasseled (male inflorescence removed). The same principle may be used in monoecious genera of forest trees (spruce, pine, larch, birch, etc.) which, like corn, have male and female flowers separated—in this case the male flowers of the species used as female parent would be pruned off. In dioecious genera (male trees and female trees) such as poplar, willow, ash, the same principle applies except that no pruning would be necessary. In genera with perfect flowers (male and female elements in the same flower), such as elm,

basswood and most maples, it is probably impossible to produce hybrid seed on a large scale, except where instances of self sterility or dichogamy (differences in flowering time between male and female elements) might make it possible to work out an effective method.

Before leaving this topic it should be made clear that, before hybrid seed would be produced on a large scale as outlined above, the crosses would be made, and the value of the hybrids proved, experimentally. The original or experimental cross is effected by placing a pollen proof covering (paper or cloth bag) over the female flower of the maternal parent prior to pollen dehiscence, followed by the "antiseptic" injection of pollen from the paternal parent into the bag at the time of receptivity on the part of the female flower, usually coincidental with pollen dehiscence of the maternal parent. This is controlled cross pollination in terms of absolute control within the confines of a pollen-proof covering over a female flower. The large-scale hybrid seed production procedures outlined above are effected by growing "maleless" (natural or by pruning) maternal parents adjacent to paternal parents in an area free from pollen contamination (cleared districts, prairies, small windward islands, etc.); they are controlled pollinations in terms of absolute or approximate control within the area made free from possible pollen contamination.

We have been dealing with the use of the first generation hybrid ( $F_1$ ) as a means of overcoming the time problem. Two other means remain: first, the shortening of the period between generations and, second, the production of new forms through chromosomal doubling.

The fact that dominance interactions sometimes produce undesirable character expressions in the  $F_1$ , that difficulties may arise in vegetative propagation of the  $F_1$ , or that large scale hybrid seed production is impossible, force the breeder in some cases to work with the  $F_2$  and higher generations. Can the period between generations be shortened? It can, but the methods so far worked out have not been proved by extensive practical application. The lines of attack on the problem have been: first, the induction of abnormally early flowering by grafting hybrid scions (from young seedlings) on suitable sexually mature stocks and, second, correlative studies on related mature and immature trees to establish criteria for the prediction of mature characters on the basis of immature expression.

Induced chromosomal doubling is not a part of the hybridization procedure; it is a change wrought wholly within the body of one plant, even within one cell of that plant, which leads to the production of a new form with a higher chromosome number. Whether the new form is better or worse than the original only testing will tell; but we may be sure that some will be better, that some will be fertile and true breeding. Chromosome doubling as a breeding procedure has a particular significance in forest trees, since the production of immediately stable forms reduces the time problem to a minimum by complete elimination of the need for growing hybrid generations.

*The Utilization Problem*

It was attempted in the preceding section to demonstrate the scientific feasibility of breeding superior forest trees. It will be attempted now to demonstrate how these trees may be utilized to economic advantage in practical forestry.

To most Canadians the word forestry brings to mind vast areas of virgin timber, in the improvement of which breeding can have little or no place. Hence the misgivings about the utilization of improved trees. Forest tree breeding has its place not in virgin timber ready for the axe, but in Canada's twenty-six million acres of farm woodlots, in watershed plantings to control floods, in reforestation of cut-over land which will not regenerate a forest naturally, in reforestation of Southern Ontario's sand barrens and sparsely wooded hills, and in prairie afforestation for shelterbelt and other purposes. A big enough field, here, for a tree breeding program.

Tree planting is already a pretty big business in Canada. The Provincial Forest Stations of the Ontario Department of Lands and Forests distribute over twenty million trees each year; and the Forest Nursery Stations at Indian Head and Sutherland, Saskatchewan, send out many millions more. And as larger areas of accessible virgin forest are cut over, as distance from forest to mill increases, as areas of unprofitable second growth appear, there will be a larger place for planting—and there will be higher prices for wood.

The price of wood, the raw material for the pulp and lumber mills and for the fuel yard, is, of course, an extremely important consideration. There was a time when wood was so cheap that the idea of a cost for growing could not be entertained. But now the short-haul wood from the farm woodlots pays for the fencing, thinning practices, even planting, and still shows a handsome profit. And these woodlots have also to absorb untold costs of slow growth, disease susceptibility, poor quality, etc. Professor Mulford of the University of California estimates that to cut ten years off the growing time, at any stage, will reduce the growing cost approximately forty percent. The breeder is aroused, something has flashed into his mind— $F_1$ , hybrid vigour, increased rate of growth . . .

*The Improvement of Forest Trees**1.—Selection of superior natural types.*

In the forest, natural selection has operated on the basis of ability to grow, reproduce, and persist under the stress of the natural environment. This ability represents a superiority only in the sense of capacity to survive. Since points of superiority from the viewpoint of man's economic requirements do not necessarily have a survival value in natural selection, it follows that deliberate selection based on economic requirements will lead, in general, to the isolation of types which will be superior to wild forms in meeting those requirements.

The evaluation and selection of superior types from the range of existing natural variations should be the first step in any breeding program.





**Hybridization, field view.** Bagging white spruce. Note operator near top of tree. In spruce, female flowers occur near top of tree, male flowers near bottom.

---

This necessary preliminary phase, while not entirely neglected by foresters, has, nevertheless, not been given due consideration. C. G. Bates, a prominent American forester, has made the assertion that, "... between 25 per cent. and 50 per cent. of all forest planting in the United States to date represents wasted effort . . . because of the use of poorly adapted species and races of trees." The lack of appreciation of heredity aspects in selecting seed trees whether for natural regeneration or for seed collec-

tion, represents not only the loss of an opportunity to improve the succeeding stand, but also the introduction of a pronounced tendency toward lowering the hereditary quality in the succeeding generation. In the case of natural regeneration, a common practice has been to leave for reseeding the area trees which, because of poor form, disease, or other reasons, are unmerchantable. In the case of seed collections, trees are commonly selected which are low, scrubby and branchy because they are easily climbed and yield good quantities of seed. Thus, while in the virgin forest natural regeneration has maintained well-adapted types by natural selection, man in his short-sighted economics bequeaths to the future the progeny of culls.

The first step in breeding, then, is the evaluation and selection of those existing types which may be expected, on the basis of genetic principles, to produce superior progeny. This phase deals in part with native forms and in part with introduced, exotic forms. In the case of native forms, evaluation and selection may be carried out on the basis of a knowledge of what constitutes heredity variation as opposed to environmental variation. In the case of exotics the additional factor of adaptation must be considered. The source of seed should be stock which has developed under environmental conditions similar to those of the new habitat. Experimental plantings should be made under government arrangement in each of the soil-climatic zones in which the selection might be recommended for commercial use. If the selection shows sufficient merit, the experimental plantation should become the seed source for commercial planting.

The same principle would apply to a selection propagated from cuttings.

A further purpose for which the evaluation and selection of natural forms are prerequisite has to do with providing the best possible parental forms of hybridization. Selection of parental types should be particularly close where the  $F_1$  is to be utilized; for example, if it is desired to combine the disease resistance of an exotic with the general characteristics of a native form, it would greatly increase the possibility of obtaining a suitable  $F_1$ , if the exotic were well adapted and of good type.

## 2.—*Production of new types.*

Heritable variability is the very essence of potential improvement. Without such variability both natural and artificial selection would be futile, and improvement, therefore, impossible. The natural variability existing in a given material may in range or quality be inadequate for certain breeding objectives. In such cases new and, with limitations, predetermined types may be induced by hybridization. New inherent characteristics may be produced also by experimentally induced chromosomal changes.

### (a) Hybridization of Selected Natural Types.

Selection within the range of natural variability occurring in a material is commonly limited to choice among distinct well-established forms (species), or among small variations centering about these forms (biotypes, varieties). Hybridization between these forms, on the other hand, provides



J. M. MacEachran

*By Egerton L. Pope*



SELF-PORTRAIT

*By Egerton L. Pope*

a relatively wide range of variability covering intermediate classes between the parental forms; and, since it admits of crosses between forms that nature has never brought together (e.g. native species crossed with exotic species), these intermediate forms may be dissimilar (and thus inferior or superior) to any previously existing type.

Another advantage of inducing variability by artificial hybridization is that the direction or quality of the variability may, with limitations, be controlled. To a degree it is possible for a breeder to produce an  $F_1$  hybrid which combines the desired expressions of a number of characters. The degree to which this is possible depends upon the dominance, interaction, and chromosomal location of the genes involved. The extent to which the  $F_1$  characteristics may be predictable in advance depends, of course, upon the breeder's knowledge of these genetic phenomena for the material in question.

In many cases the  $F_1$  will be found to have a mixture of both desirable and undesirable characteristics. Here a compromise should be made. To save time and to retain hybrid vigor the  $F_1$  would be propagated and, since there is a probability of obtaining superior segregates, it would perhaps be worth while also to undertake the longer method of breeding.

(b) Induced Chromosomal Doubling.

In many genera of cultivated plants the species with polyploid chromosome numbers, e.g., tetraploid (4x) and hexaploid (6x), appear to be of greater economic value than diploid species (2x). Since most of our important forest-tree species are diploid, it would appear that chromosomal doubling holds good possibilities as a means of producing new, superior forms.

A recent development in the experimental technique of inducing chromosome doubling has greatly stimulated interest in this method of producing new forms. The new technique involves treatment of seeds or plant parts with the alkaloid, colchicine, which, through its effect on cell division, is highly efficient in producing chromosome doubling.

It is important to note the fact that new forms produced by chromosome doubling may possess a high degree of fertility and stability from the start. In the case of forest-tree breeding this is particularly important since it solves, to a large extent, the time problem.

3.—*Evaluation, selection and multiplication of superior new types.*

The mere production of new types represents only a new and potentially valuable range of variability upon which selection may be practised.

In the case of hybridized material the variability will have been produced deliberately with a more or less definite objective. If the objective were disease resistance, the hybrids would be subjected to the attack of the disease, and evaluated and selected on the basis of their reaction. Among types which resist the disease, further selection must be made on the basis of quality, vigor, adaptation, etc. Here again the time element enters in. It is to be hoped that juvenile expressions will be so correlated

with mature expressions of characters that selections may be made at an early stage of development.

Since forest trees are in most cases open-pollinated and may therefore tend to be heterozygous, it is thought best to consider the  $F_1$  as a variable generation in discussing the selection.

In the case of material in which chromosomal doubling has been induced, the characteristics will probably resemble the original forms qualitatively, but may be very different quantitatively, e.g., size of organs, rate of growth, etc. Selection should be simple, since there should be little variation within the material and since the quantitative characters should be definitely expressed at an early age.

#### 4.—*Practical and economic utilization of new selections.*

The breeding program should, in the interests of the practical utilization of the new selections, be concerned with methods of reforestation in relation to these selections. To be useful in commercial forestry, a new production must be adaptable to commercial methods of propagation. The fact that the new productions will be, in most cases, appreciably more valuable than wild forms, will permit a higher cost per acre for establishment. But since there is a definite limit to the extent of their greater value over wild forms, there must be a corresponding limit to their greater cost of growing. We must, therefore, consider proposed methods of propagation (vegetative, large-scale hybrid seed production, etc.) not merely as expedients necessitated by the nature of the breeding material, but as methods which must be developed to meet the practical and economic requirements of commercial forestry.

The problems confronting the forest-tree breeder are many and great. There are first the difficulties arising out of the nature of the material—the relative lack of botanical information, the time element in breeding, etc. Secondly, there are the questions of trends and developments in the industry which must, if possible, be anticipated, since the present breeding objective can be proved and justified only with the maturity of the first crop, perhaps forty years from now. Thirdly, there are the problems which arise out of the very early stage which the present represents in the development of cultural forestry—the forest-tree breeder must justify his existence by argument, must change an old order for the support of his program, must prove to the grower that it pays to make an investment which will bring its first returns forty years hence.

There is a plea, here, for patient understanding and adequate support, in order that an organization with prospects of a long-time existence might find a way to cope successfully with these problems as they apply in Canada.

## *The Story of a Building*

*By the Oldest Inhabitant—H. P. Brown*

The title is commonplace, the building one of the least imposing, and the story is one of accommodation put to many needs. But behind the story is a record of small beginnings, of enterprises that blossomed forth into unforeseen greatness, of a great variety of accomplishments in the development of which their humble beginning in this building has been lost sight of.

Its name? Has it a name? Some call it the Power Plant, which it assuredly is not, though that necessary adjunct to the University is at one end of it. It was once called the Double Lab, as it consists of two parts with connecting doors, but since it ceased to be used as a medical building, it never seems to have arrived at a state of perfect married accord.

On the front of the building are engraved in stone such names as Watt, Stephenson, Kelvin, and Fulton, signifying the engineering purpose of the building though a good part of it has never been used for engineering. Tracks to carry heavy machinery have been "over the heads" of the office staff in the Department of Extension for many years. So we shall pass over the name and begin to tell the story of the building.

In the first place it met with difficulty in becoming a building at all as it was under construction in 1914 when the outbreak of war caused the suspension of activities; nevertheless, it was completed in the following year. This newly finished engineering building then became a medical building and home of the first two departments of the Faculty of Medicine. These were Anatomy and Physiology which form the fundamentals of the Medical Course. Dr. D. G. Revell was Professor of Anatomy and Dr. H. H. Moshier, Professor of Physiology. In his "Story of the Early History of the Medical Faculty," Dr. Revell explains the location of the two departments: "Anatomy had the north half (of the building) which also contained the lecture room shared with physiology. On the ground floor were offices, laboratories for histology, embryology, and neurology, and for physiology, biochemistry, and pathology. We also had considerable space for museum cases on the ground floor. The upper or second floor had a series of rooms along the three outside walls, and these were reached by stairs and galleries with iron guard rails. As the construction of the building itself included large steel overhead track for a travelling crane to handle heavy machinery, it presented a very formidable appearance for the purposes of the gentle ways of medical teachers and students. A small part of this steel work may be seen exposed in the upstairs visual instruction and radio studio parts of the Extension Department. For gross anatomy laboratories ("stiff labs" in the vernacular of barbarous non-medical studes), we had five small upstairs rooms."

Today some of these upstairs rooms are the home of one of the largest educational film libraries in Canada, shipping ten thousand reels of film

annually and carrying on an important visual service to the schools and institutions of Alberta.

Many are the stories told of the days when this building was occupied by the Medical Faculty. All "cadavers" or bodies used by Anatomy had to be taken up a narrow stairway with a double turn and an iron railing. On one occasion Dr. Revell and his assistant had nearly reached the top when one of them slipped, and Doctors and body quickly descended into an undignified heap at the foot of the stairs. On another occasion the Scottish owner of a well known Edmonton transfer company phoned Dr. Revell to know why the delivery of a body a month before had not been paid for. He was informed that the delay in payment was unintentional and that the error would be rectified. Said he, "Anither time ye'll nae get your body until I hae ma money."

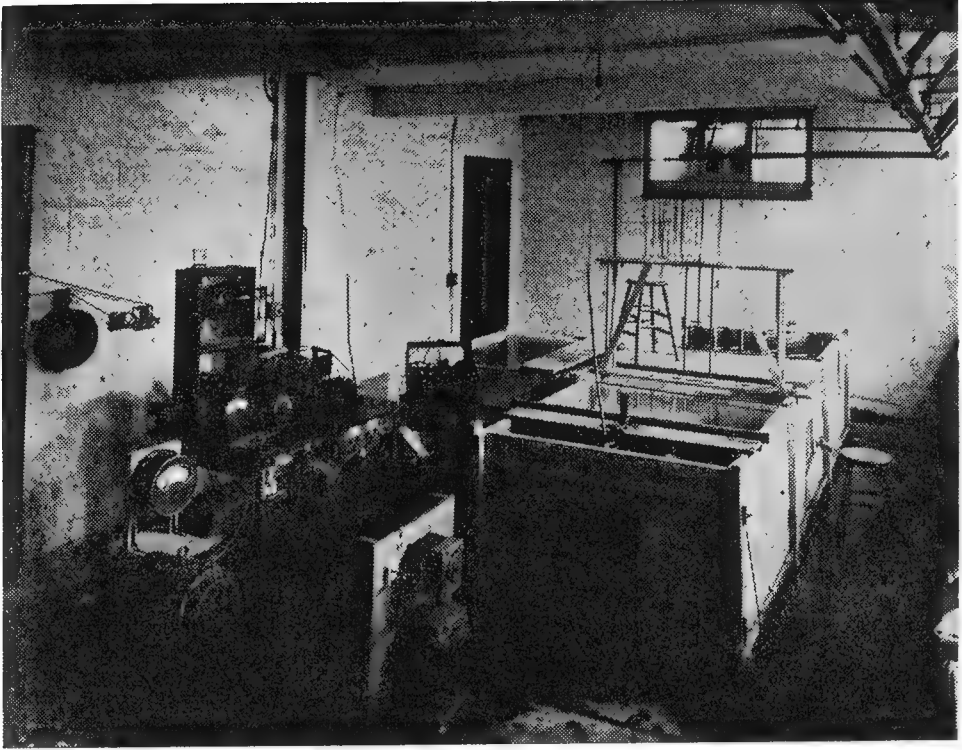
It was here that Dr. J. B. Collip, D.Sc. '24, commenced his work. He joined Dr. Moshier in physiology and biochemistry in 1915, and also gave the course in Zoology for medical students in 1915 and 1916. On Dr. Moshier's leaving for active service, Dr. Collip took full charge of physiology, biochemistry, and pathological chemistry. Later Dr. Collip carried on the important research work that led to his being called East to assist Drs. Best and Banting in the development of Insulin.

Upon the completion of the new Medical Building in 1921, the work of the departments of the Medical Faculty was centralised in the new building, and the Departments of Extension and Electrical Engineering moved in to the "old medical building."

In the basement were some sloping concrete floors in a caged enclosure used by the medical departments as a frog pond. These are still to be seen and now form part of storage facilities used by the Department of Extension for theatre lighting equipment and youth training supplies. Also in the basement of this building was a photographic darkroom used by Dr. Revell in the making of microscopic and lantern slides, and used for some time in conjunction with the research work of several departments of the University.

There were two important series of research carried on in the basement of the building after the Medical Departments vacated it, one known as Ultrasonic Wave by Dr. R. W. Boyle, then professor of Physics and later Dean of Applied Science, and the other the first extraction plant for the processing of McMurray tar sands. Of the Ultrasonic Wave Experimental Research carried on by Dr. Boyle and his assistants, the full implications unfortunately cannot be given at this time for security reasons. Suffice it to say that Dr. Boyle had previously (during the war of 1914-18) been attached to the British Admiralty and here continued his experiments in the detection of under water objects. One of the purposes of the research was for securing the safety of ocean lines from icebergs, a matter which had engaged the attention of scientists since the loss of the Titanic on her maiden voyage.





ULTRASONICS LABORATORY, BASEMENT OF POWER PLANT BUILDING, 1921

The work here was carried on with the assistance of grants from the National Research Council and was commenced in 1921. During the following years many students assisted Dr. Boyle and the careers of these are of special interest. Our own Geoffrey Taylor, M.Sc. '25, remained with the Department of Physics as instructor and afterwards became Assistant Registrar of the University. J. F. Lehman was the son of Dr. Lehman, Professor of Chemistry here for many years. He received his Master's Degree on the basis of the Ultrasonic Experiments and became the first "1851 Exhibition Scholar" from the University of Alberta, securing his Doctor's Degree from Cambridge University. He is at present Research Chemist with the British Ministry of Supply. Another 1851 Exhibition Scholar was Don Sproule who worked with Dr. Boyle in 1925. He received his B.Sc. in 1928 and his Master's Degree in 1929. He married a Russian wife and lost her in the sinking of the Western Prince, narrowly escaping with his own life. He was the co-inventor of the air-echo altimeter for aeroplanes. Charles David Reid graduated in Engineer-

ing Physics in 1923 and received his Master's Degree in 1924 on work connected with the Ultrasonic Experiments. He obtained his Ph.D. at Harvard where he instructed from 1924 to 1930 and has since been connected with the Eastman Kodak Company. S. C. Morgan, M.Sc. '23, also worked with Dr. Boyle, afterwards becoming assistant in the Electrical Engineering Department. Next he went to Queen's University where he became Director of CFRC, the radio station at Queen's, and is now at U.B.C. with Dr. MacLeod, formerly Professor of Electrical Engineering here. Dr. Boyle himself went to the National Research Council where he is Director of Physical Research.

The tar extraction plant occupied the north side of the basement of this building in 1923. It was the first practical application of the hot water separation process in Alberta, and it handled two carloads of McMurray tar sand. The plant was designed and the work carried on by Dr. Karl Clark of the Department of Industrial Research of the University. The then Superintendent of Buildings, Mr. Langland, was not at all pleased with the location of this experimental plant and claimed that frequent drain stoppages in the building were due to its activities. Certain it was that the clogging was caused by seepage of sand into the drains, but close examination showed that the sand was from the new medical building construction and the McMurray variety was exonerated. Then it was found that workers in the Extension Library upstairs were becoming overcome by fumes, but this also was traced to another source. The dismantling of the plant was due to its inadequacy, and a larger plant was constructed at the Dunvegan Yards at the north end of the city. Some of Dr. Clark's assistants have also gone to important fields. Sid Blair received his M.Sc. here, and is now technical adviser to the Managing Director of Trinidad Leaseholds. Others were Nick Melnyk, B.Sc. '29, now with the Cadomin Coal Company, and G. F. Knighton, B.Sc. '26, with the Consolidated Mining and Smelting at Chapman Camp, B.C. Allan Harcourt, son of the late Professor George Harcourt, had completed his Grade XII with every intention of "quitting school" and going off to work. He became interested in Dr. Clark's experimental work in tar sands and afterwards completed his University Course and received his Ph.D. He is now with the Research Department of International Nickel as Research Mineralogist.

The New Med Building was completed in the fall of 1921 and the Old Medical Building (terms then used) received the Departments of Extension and Electrical Engineering in January of 1922. These two departments, having little in common, came to be closely associated in the building of the University Radio Station, CKUA. Largely responsible for this venture was A. E. Ottewell, M.A., a member of the first graduating class of the University and first Director of the Department of Extension, and Dr. H. J. MacLeod, head of the Department of Electrical Engineering. Professor MacLeod was an instructor here and received his M.Sc. in 1916. He enlisted in the 196th (Western Universities) Battalion during the first World War, received his Captain's commission and returned to the

University to become head of the Department of Electrical Engineering. Radio was early used by the University in taking Extension lectures to the people of the Province, various professors having first to take the trip to an overtown broadcasting studio for the purpose. In 1927 a studio was established in the Department of Extension and in the fall of 1928 the University opened its own transmitting station under the call letters, CKUA on its present assigned frequency of 580 kc. Assistants to Dr. MacLeod at that time were W. E. Cornish, M.Sc. '33, and J. W. Porteous, M.Sc. '33. The first (purchased) transmitter was soon discarded and a new one constructed by Cornish and Porteous, the work upon this forming the basis of their Master's Degrees. This 500 watt transmitter was not housed in the Department of Electrical Engineering but upon the knoll south of Pembina. It had a high degree of efficiency in relation to its power and on a late night test, the station was heard simultaneously in Long Island and Hawaii. Professor Cornish was Associate Professor and acting head of the Department when he died in 1943. Professor Porteous is the present acting head in place of Professor, now Commander Cullwick, on loan to the Royal Canadian Navy.

Many students in Electrical Engineering assisted in building and operating the radio transmitter. Among them were Percy Field and Paul Johnson, B.Sc. '39, both now with the C.B.C., and Edward Jordan, M.Sc. '36, who received his Master's Degree on work connected with the studio controls. Edward was workroom boy in the Visual Instruction branch of the Department of Extension when he decided to make radio his life work. He became control operator of CKUA while taking his electrical engineering course, and operated the transmitter between times. Following graduation he redesigned and rebuilt the studio control panel, incorporating into it the first automatic gain control to be installed in any Canadian radio station. He later obtained his Doctor's Degree at Ohio State University, Columbus, where he still is an instructor.

In 1937 students of the University formed a short-wave club and installed in the basement of this building a short-wave radio transmitter bearing the call letters VE4AJS. This station worked with a similar short-wave station at the University of Saskatchewan and on the occasion of inter-Varsity games transmitted the progress of the play. Students from Calgary often used the short-wave station here to send messages home of the "Hello Mom" type. This equipment was dismantled at the start of the present war and is now part of the "museum" of the Department of Electrical Engineering. Also to be seen are parts of previous CKUA transmitters and control panels and old Government Telephone Switchboards. Since 1939, the Department has given short courses in elementary radio training to 1200 airforce and naval personnel. Each course was of 16 weeks and included preparation for advanced training in radio detection devices and for electrical artificer.

Of the Department of Extension a lengthy story might be written. Located in a building quite inadequate for its many and varied activities,

this Department which "takes the University to the people" has done so to a degree that few Canadian Universities have equalled. Soon after the Department of Extension took over the south half of the building, it was found necessary to complete the upper part by laying a floor over the "well" of which the main part of the building then consisted. A similar floor was later installed in the Electrical Engineering Department. Occupying the upper floor are the radio studios and the Division of Visual Instruction. The side rooms of the lower floor house the general offices of the Extension Department. The main floor was formerly occupied by the Extension Library. The versatility of this building could not quite reach to the exigencies of a library, so the library was moved first to the Normal School and then to the Edmonton Court House where it now is. The space formerly occupied by the library was taken over by the Department of Electrical Engineering in a much needed expansion. Reference has been made to A. E. Ottewell, first Director of the Department of Extension and University Registrar since 1928. Assisting Mr. Ottewell in the Department were D. E. Cameron, who became Librarian of the University, and E. A. Corbett, now Director of the Canadian Association for Adult Education. All three saw service overseas in the Khaki University of the first World War. Some of the activities sponsored by the Department of Extension are the Banff School of Fine Arts and University Week for farm young people, the latter carried on annually without a break since 1919. One of those who attended this event early in its history was Donald Cameron, M.Sc. '35, who afterwards enrolled in a regular University course, graduated, and joined the staff of the Department of Extension as lecturer. He is the present Director of the Department and has as his assistant, Frank Peers B.A. '36, B. Ed. '43.

Among other uses to which this building has been put are the rifle range of the COTC, which used the north half of the basement for target practice up to two years ago, an Animal Science laboratory which has recently been opened in the south end of the basement, and a new project now being undertaken by the Department of Mathematics at the request of the National Research Council.

High honours have come to the building. Two of its former tenants mentioned herein were included in the King's Birthday Honours list of 1943, Dr. J. B. Collip receiving the C.B.E. and Dr. H. J. MacLeod the O.B.E. Many who worked here have gone far in their chosen fields. The record of the building is one of achievement. Many Departments share it today, and it is safe to say that it will go on into the future, as it has in the past, bringing success and honour to those who work here and to the University of which this building forms such a humble part.

## *"CKUA is on The Air"*

By A. E. OTTEWELL

On November twenty-first, 1927, the above announcement was made for the first time. It marked a definite point in the history of radio. When in the early twenties, radio broadcasting became practical, the Department of Extension of the University of Alberta realized that a new educational tool of immense value had been produced. Previously the university extension lecturer had reached limited local audiences, by laborious travel with, in many instances, primitive methods of transportation. Now, with comparative comfort from the university studio, mud, snow-banks, below zero temperatures, and time spent in travelling were overcome. Instead of being restricted to audiences which could be assembled here or there, the speaker could address thousands at once as they sat by their own firesides.

At first, the University had no radio station of its own. But in those days each station had to be self-contained in the matter of program production. Therefore, any contribution likely to interest the radio audience was appreciated. Amos and Andy, Charlie McCarthy, soap dramas, and other such features were still far in the future. Even lectures by university professors were welcomed.

In 1923, through the generosity and co-operation of Station CJCA, the University of Alberta went on the air with regular broadcasts several evenings each week. Remote control equipment was set up in the office of the Director of the Department of Extension, and excellent results were obtained.

There were various and sometimes amusing incidents. Experienced lecturers were often "mike shy." Nowadays, radio lecturing has become a commonplace. Then, it was a startling novelty. The lack of audience reaction embarrassed some speakers. One such confided to his audience: "If you would like to know what it feels like to talk to you over the radio, go out to the barn, find a knot-hole in the wall and talk into it." On another occasion after his first effort, the speaker added the remark, "Thank goodness that's over," while the "mike" was still open. We do not know whether or not the listeners endorsed his comment.

As time went on, the commercial value of radio as an advertising medium became more and more apparent. Educational broadcasts and pay programs competed for the best listening time. A station which had a heavy budget to meet could not reasonably be expected to continue indefinitely to assign some of its best time to non-revenue producing features. Although the management of CJCA was willing to continue its help for some considerable time, the writer, then Director of University Extension service, became convinced that education should enter the radio field in its own right with unlimited choice of time. This could only be done by the University securing its own station. So, after three and one-half years of pleasant association with CJCA and especially with Mr. Rice,

the pioneer of radio broadcasting in Edmonton, the University of Alberta decided to embark on its own venture in this field.

As always, the question of ways and means was most important. The writer, with the cordial support of Dr. H. M. Tory, then President of the University, and a pioneer in spirit and action, went to work. The transmitter and license of a local station of fifty watts capacity were purchased for six hundred dollars. Authority to step up the power to five hundred watts was secured, and the new call letters, CKUA, were assigned, the last two of which, as should be obvious, identifying the station with the University of Alberta.

Then the real struggle began. It soon became clear that to build a "tailor-made" station was beyond available resources. Estimates for construction on that basis were near twenty-five thousand dollars, a dream figure so far as we were concerned. One very difficult problem was that of masts to carry the antennae. This was solved by securing the highest windmill towers available and surmounting them with twenty-foot masts ingeniously guyed in place. These are still standing on the original site near Pembina Hall. But the real sticker was to find the necessary apparatus, transmitter, tubes, control board, and studio equipment. So friends were called upon for advice. Mr. H. P. Brown, first announcer and program director, who is still with the Department of Extension, worked tirelessly. The Department of Electrical Engineering and especially Professor H. J. MacLeod, gave invaluable help, and Mr. H. W. Grant of Calgary made the studio control equipment. Finally by purchasing various items piece-meal and assembling them under the skilled direction available, the entire station including a grand piano and the license fee of fifty dollars and the original purchase price, was made ready for broadcasting at a cost of slightly over five thousand dollars. The actual station cost less than four thousand.

Naturally many economies were necessary. A sound-proof studio was out of the question. But a reasonably satisfactory result was secured by draping an available room with burlap at a cost of less than twelve dollars.

And then the great night came, that of the formal opening, November twenty-first, 1927. On this occasion, in addition to musical features, there were addresses by the Minister of Education, the Hon. Perren Baker, Doctor Tory, President of the University, and others. The general tenor of all statements was to emphasize the historical nature of the occasion when the radio was coming into its own as an educational agency with almost unlimited possibilities.

One unplanned episode helped to add variety to the program. As remarked before, the studio was far from sound-proof. At one point, an off-stage effect was to be bag-pipe music. But because of some slight hitch, when the announcer said, "Now we hear the music of the pipers," the pipes were substituted for by the shrill whistle of a train crossing the high-level bridge, an effect which even the lustiest of pipers could scarcely hope to surpass. The public reaction to the new departure is well expressed

by the following editorial from the *Manitoba Free Press* of Winnipeg, under date of February 12, 1928:

*It begins to look as though the "dreaming towers" of the modern university were the radio spirals. In the archives of Manitoba's institution are numerous letters expressing appreciation of the radio evenings taken charge of at the provincial station by the university. In Alberta the university has set up a station of its own, CKUA, and every Monday and Thursday the "U" is on the air. And out of the air its message is picked up north to the Yukon, south to Texas, east through Saskatchewan and west to the Pacific—an extension department of some size.*

*The course for the year is laid out and it ranges from lectures on the diseases of field crops, principles of insect control, beef cattle outlook, how to make and care for hot beds, plows, their operation and adjustment, co-operative marketing, efficient winter dairy rations, feeding in relation to the ultimate bacon type, helpers to the dairy business, bee-keeping, the world's fertilizer trade, to Bunyan and his pilgrim, Robert Burns, why we study classics, romance of English words, Greek idea of democracy, early history of western Canada—in three lectures, dimensions in astronomy, etc.*

*Providing that the lone homesteader does not weaken, and the rhythm of the wolf's howl—or the polar bear's—does not interfere with the wave length, by the time the season is over he will be by way of achieving a university culture of no mean order. And he should be a better farmer. The difficulty of the farm home of today is not its isolation but how to get a moment to itself, with the "local" and the "institute" to attend, the college bulletins to read and the cattle's rations to be scientifically mixed. If the farmer is not aware his is a profession, it is not the fault of the orator, the mail service and the university radio. Along its other pathway runs the sure connection of the farm and the university, and it goes on its course unlocking not only new doors in the vast halls of science, but opening also windows in millions of minds. The university of today has a new ally and the boundaries of its day are no longer physical to any degree, but conditioned only by the mentality of the receiver. The university has left her dreaming towers and becomes a house by the side of the road—perhaps she has taken her dreams with her."*

From the beginning until now the effort of CKUA has been to provide a program which is "different." While entertainment features have not been absent, even those have had a purpose of entertainment plus information and culture. And experimental programs designed to test the value of the radio in various fields have been offered. One of these was a special Empire Day Program for schools on Empire Day, 1929. By special authority conveyed to all teachers in a circular issued by Mr. J. T. Ross, Deputy Minister of Education, all schools were directed to co-operate

in securing the best results possible in the reception of a special Empire Day Program. The circular began with the following statement:

"The Department of Education in co-operation with the University of Alberta, *The Edmonton Journal*, *The Calgary Herald*, and the radio dealers of the province, is undertaking to broadcast a program to every school in the province on the afternoon of Empire Day next. This experimental broadcast is being undertaken at this time for two purposes; first, to provide, under the auspices of the Department, a common Empire Day program for all the children of the province, and second, to determine how far it may be possible to reach all our schools by radio. Obviously, if this program can be broadcast in such a way as to reach every school child, wonderful possibilities in the way of programs are at once opened up."

In addition to suitable musical selections, addresses were given by the Lieutenant Governor, the Premier of the Province, and the Minister of Education, and special Empire Day messages from Their Majesties the King and Queen were read.

The experiment proved a distinct success and from this beginning school broadcasts have become regular features with all Departments of Education. There are many problems in this field, but one by one they are being solved, and it is safe to say that more and more the radio will be accepted as an indispensable means of instruction in the schools.

From the beginning, CKUA has been interested in experimental broadcasting of drama, symphony and other classical music and in presentation of young artists seeking to broaden their experience. Continually the idea of developing the use of radio for education and culture has been the dominating feature of all its work.

How the program has expanded from the modest beginnings of 1927 to the present time is indicated by the following statistical summary for the period October 4th, 1943, to March 31st, 1944:

Total number of quarter hour periods was 9,042, made up of CBC programs, 4,034, and local programs, 5,008. These were distributed as follows:

|               |       |             |     |           |     |
|---------------|-------|-------------|-----|-----------|-----|
| Musical       | 5,480 | Agriculture | 720 | Variety   | 135 |
| News          | 1,089 | School      | 450 | Religious | 80  |
| General Talks | 908   | Drama       | 180 |           |     |

And now a new chapter has begun. Hitherto practically all local programs have been made by voluntary effort. But it is difficult to continue to provide a satisfactory offering in this way. The ownership and management of CKUA has therefore passed to the Department of Telephones of the Provincial Government. A generous amount of time has been reserved for educational broadcasting. While to the pioneer of CKUA the old thrill has departed, we may still confidently expect to hear regularly, "The University is on the air."



## *The Physicist and the War*

By R. J. LANG

Everyone is aware that this war, more than any previous one, is scientific. Besides the usual need for men and guns, ships and supplies we must have a vast amount of instruments, some of them never heard of before this war began. It has been said that one of the greatest limitations on our war effort is the small number of trained physicists. Modern war is fought not only on the field, but in the laboratories and factories at home, and it can be lost at home as easily as on the field.

Ordinarily a physicist is a man of peace. His business is to discover the fundamental principles of nature, and he is very ingenious in performing experiments—which is his way of asking nature questions. When he has his answers, he seldom bothers to apply the new knowledge; that is the business of the engineer. But the war has changed all that. The physicist has been forced to take up the application of these principles in order to meet the war emergency. For the present he has been changed into an engineer.

The United States has a special scientific organisation to direct the work of its scientists. It is closely allied with the army and navy and has mobilized practically all of that nation's powers of research. In modern alphabetic jargon it is called O.S.R.D.—Office of Scientific Research and Development. It spends 135 millions of dollars per year and has 18 divisions such as radio, explosives, etc. We have no corresponding body in Canada. When the war began, scientists all over Canada offered their services, but the government, for the most part, took graduating students from the universities and froze older men in their teaching jobs. Most universities have some war research of a highly secret nature, and some industries are doing similar work connected with their own production.

This war was nearly lost by us on two occasions, the Battle of Britain and the Battle of the Atlantic. On neither occasion could our dauntless aviators or sailors have won it alone. They required and received the support of the scientists.

The suppression of the German magnetic mine was one of the most dramatic incidents of the war. It seemed to come over night. These mines are held submerged a short distance below the surface, and the steel hull of a passing ship brings them up by magnetic attraction to explode on contact with the ship. The mines were overcome when their construction was learned, simply by stringing a copper cable around the ship carrying an electric current, whose magnetic effect is enough to cancel the magnetic attraction of the steel hull, so the mines no longer come up when the ship passes over. This de-Gaussing apparatus is credited to Lt. Commander Goodeve of the Royal Navy. It is now built into each ship when it is constructed as part of its permanent equipment.

Then there is *Asdic*. It is not a new device, but is based on a discovery by Pierre and Paul Curie away back in 1880. Its use for war purposes was suggested by another French physicist, Paul Langevin, in 1917, and it was used to some extent in the First World War. It consists of a simple apparatus made of crystal plates supplied with electric power, which is placed in the water beneath the ship. It sounds out a beam of sound waves of very high frequency, much too high to hear and so called ultrasonic; a sort of invisible searchlight of sound which can be turned this way and that. If the beam falls upon an object beneath the water, even several miles off, an echo comes back and registers on the instruments in the ship giving the direction and the distance of the object.

We may recall here that some of the work on this instrument, in the years between the great wars, was done in the Department of Physics of this university by Dr. Boyle and his assistants. I well remember the large water tank and the complicated electrical machinery in the basement of the powerhouse during those years. (See p. 153).

Or let us think of radio.

It is wrong to credit Marconi with the invention or discovery of radio. True, he was the first to send signals across the Atlantic, but he could not send the human voice because the vacuum tube for that purpose had not been invented. This was done by an American physicist, Lee de Forest, who took the Flemming valve and made it into an amplifier, a broadcaster. He broadcast Caruso's voice in 1910. This amplifying tube has been called the greatest invention of this century. Without it radio broadcasting would be impossible; there would be no trans-Atlantic telephone; the movies would still be silent; planes would still be flying and landing blind. We would have nothing but that bumping, thumping Morse signal we often hear on the short wave coming from some tramp steamer off the Pacific coast. That is the signal Marconi sent across the Atlantic. But in this war radio has gone far beyond a method of communications, important as that is. An officer on board a destroyer, on the darkest night can locate every ship in his convoy without any signal or assistance from them. A fighter pilot can find his enemy in the sky and neither cloud nor darkness can hide them. Targets to be bombed are located in the dark or through the overcast about as well how as if the ground were clearly visible.

It was known in 1922 that very short radio waves are reflected by houses, ships, etc., whereas the ordinary long waves pass right through them. As early as 1934 the U.S. Navy had a form of radar on some ships and could detect a plane in the sky. About the same time similar experiments on plane detection were successful in England. It seems too early yet to say where radar first originated. Some names are mentioned such as Watson-Watt in England and Taylor and Young in the United States. Those were the good old days when scientific discoveries were, for the most part, published freely and became the property of

anyone who could read and understand. Development could thus take place in several countries simultaneously.

The Germans, so far as I know, did not take a prominent part in the development of radar before the war. At the fall of France, however, they obtained the technical details in spite of determined efforts by the British to destroy all the instruments in France.

Fortunately that knowledge came too late for the Battle of Britain. That battle was won by the pilots of the R.A.F. supported by a system of plane detection from stations on the ground, which told them just where the enemy planes were at all times, day or night, and how many there were. This saved the pilots from complete exhaustion and their Spitfires from being worn out in ceaseless patrolling of the sky.

The Battle of the Atlantic was even more a battle of technology. By 1942 the U-boats threatened to control the Atlantic and separate this continent by ships from Europe altogether. They patrolled our coast and even dared to enter the St. Lawrence river. Their success was due to great improvements in equipment and methods of attack. They hunted in packs, like wolves on the runways of the forest. Their range increased steadily and they carried guns big enough to fight destroyers and planes. But it was their torpedoes that were particularly deadly, with their delayed-action fuses, penetrating nets and the hulls of ships before exploding. Even that momentary warning, the track of bubbles, was suppressed by using hydrogen and oxygen gases to drive them so that the exhaust would give out nothing but water.

So far as the public knew at that time we had no defence except the bravery of our naval and merchant seamen and the frantic production of our shipyards. These seemed likely to prove inadequate in the long run so long as Germany held the ports of Europe. But we had, as we now know, much more than these to offer. We were improving Asdic in range and accuracy. We were developing radar on our fighting ships until we could not only find U-boats on the surface in the dark but destroy them by gunfire without ever having actually seen them. The improvements in these devices came into effective use in the spring of '43 and, assisted by plane patrols from coast and carriers, quickly made life on an enemy submarine a brief and dangerous one.

We may notice also how radar, as now used with anti-aircraft guns, has changed that situation from one in which it was about as dangerous to the observers on the ground as to the enemy in the sky, to the present where American carriers cruise around nonchalantly among the Jap bases in the Philippines.

Near the end of 1943 Hitler acknowledged publicly that one technical invention of the enemy had stopped the U-boats. By some strange quirk he very nearly spoke the truth on that occasion. He should have said several inventions.

## THE NEW TRAIL

*A Quarterly Report of Campus Activities*

An official publication of the University of Alberta and its Alumni Association. Any person interested in the University may subscribe at the rate of one dollar a year.

Editor: F. M. Salter

Associate Editor: G. B. Taylor. Art Editor: H. G. Glyde

Business Manager: Clem L. King

Advisory Board:

Mr. Justice Ford  
Mr. Justice Parlee

Robert Newton  
G. B. Sanford

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## CKUA

On May first, Alberta Government Telephones took over CKUA. Seeking the reasons for this transfer, *The New Trail* appealed to the Honorable W. A. Fallow, Minister of Public Works, who was good enough to answer as follows:

In reply to your letters of May 11th and the 11th instant, in connection with the transfer of radio station CKUA from the University of Alberta to Alberta Government Telephones, I wish to state that the Government considers radio facilities one of the most important instruments for the advancement of culture and education.

It cannot be claimed by any stretch of the imagination that these facilities are presently being used to that end. It is with this idea in view that the Government is determined to build this radio up to a point where it will fill every need in that respect.

The University of Alberta has an agreement with the Alberta Government Telephones whereby radio station CKUA will be available to them without charge to carry on their educational work. Until we are able to build up a greatly increased listening audience, they will not be able to get their programs across to the people they desire to reach. We propose to make this radio station so attractive that the listening audience will increase very rapidly. This is our only purpose in taking over the station.

*The New Trail* is grateful to Mr. Fallow for this very direct and forthright statement. We are relieved to know that in the transfer, educational and cultural work will not be sacrificed, and that the University is to have free time. As certain elements in the situation remain obscure, however, and as negotiations may still be incomplete, it will be best to defer further comment until a later time.

---

## Correspondence

Manifest and manifold is the unfitness of the Editor for this chore of *New Trailing*, and it *is* a chore. Nevertheless, there are times when a joy steals into his heart that is beyond price. These are times, invariably, when letters come in full of kindness and inspiration; but it is the new Friends who do most to keep the old horse going.

There is no propaganda; there is no high-pressure campaign. There, unobtrusively in various issues of *The New Trail*, is the report of the Friends, with the simple statement, "Friends of the University are those who subscribe five dollars a year or more to provide scholarships and research facilities, extras, for the University." And quietly, out there in the distances, individuals say to themselves, alumni and others, "I would like to be a Friend." They make up their own minds, and along comes a crisp note or an explanatory one—and always there is the same realization in the editorial heart of the essential goodness of people, a realization that many people nowadays are thinking *right*.

One of these letters sticks in the memory, that of the man who quoted Housman:

*Little is the luck I've had,  
But oh, 'tis comfort small,  
To think that many another lad  
Has had no luck at all.*

This editorial has run away with us. We intended to comment on Dr. Cook's investigation of the reasons why half of the top-ranking students in Grade XII do not come to the University. It is easy to read between the lines of his report, even if some of the letters Dr. Cook has on file were not quite explicit. Many, many are the lads and girls who have had "no luck at all."

Everybody knows that Democracy cannot work until every individual is trained or educated to his highest capacities—but Democracy and Education are big, fuzzy, blurred words. We prefer to think of the Friends and of the opportunities there still are in this world to do big things with little means—and of the lads and girls who have had no luck at all.

## Talking About Sweeney

"There," said the Old Professor, "Read that!"

We picked up the document and read:

TO THE UNIVERSITY OF ALBERTA

(Your Opinion of Sweeney)

*Out yonder in your halls of fame  
You've only lately heard my name—  
I'm just a product of the sticks,  
One of those green Peace River hicks,*

*Who dares to twang the sacred Lyre;  
To court the Muses he'd aspire.  
We think he is a wee bit loco—  
They'd better send him to Ponoka.*

*If I have committed Plagiarism in this Madrigal, please let me know.  
With best wishes here, and hereafter,*

*Respectfully,  
John Sweeney.*

"Who is he?" we asked.

"His name is on it!" exclaimed the Old Professor, a bit testily. "He's Sweeney. There it is: he belongs to Peace River, he twangs the sacred lyre, he's a recent acquaintance, I've never seen him, and he thinks my opinion of him is not high—it's all there."

"Oh, well," we remarked, "You can't expect an editor to have brains."

"Why not?"

"They would be a disadvantage."

"Humph," grunted the Old Professor with a quick suspicious glance, but his voice softened.

"Well, I'll tell you. Sweeney is an old man, eighty-one. He lives in Peace River. He sent in a batch of poems—oh, half a hundred of them. I read them, read them carefully, and then I told him. Yes.

"I told him they were not publishable though they showed a decent amount of technical skill. There were too many echoes. And then I said, 'What of it! It's fun anyway, this tinkering with rhymes—and there's no law against it. It doesn't hurt anybody. So why not carry on!' And I suggested that he try some rousing old Peace River ballads, record the legends and tales and yarns of that country. Now I get this!"

"Well—?" we said as the silence lengthened.

"Don't be so persistent!" said the Old Professor, "You bother me; you're like a mosquito; I resent you—"

"Who started this, anyway!" we protested.

The Old Professor sighed. "All right, I'll tell you. Sweeney thinks I have a low opinion of him. I haven't. I have a high opinion of him. Look at this little epigram—it isn't a madrigal. Isn't it neat? Does it not land on its feet? It does exactly what Sweeney wants it to do—and then look at the postscript, wishing me well here—and *hereafter!* The old coot!

"Only, what he means is incorrect. What I think of Sweeney is this: I think he is a most interesting gentleman who has the courage to be different from the common run and who gets fun out of his battered old tuneful lyre. If other people think his madrigals are no good, it's all right with Sweeney. What I think of Sweeney is this, that I would like to go to Peace River right now and sit all day in the sun with him and chat. I say, 'sit in the sun,' because probably his pipe is worse even than

mine, and we couldn't endure each other indoors—or the women folk wouldn't.

"What I think of Sweeney is that he's the hope of the world. He's the hope of the world because *art* is the hope of the world. For, wherever there is a man to whom poetry means something, a man like Sweeney, there is an influence pouring into the lives of others.

"Let me tell you: There was a woman who sang old ballads of Scotland—I can hear the sweet accents of it yet. 'They hadna been awa' a week, a week but only twa'—' And there was a man all whiskers—whiskers that scratched my cheek when I said goodnight—and he would lie on the couch behind the stove through the long winter evenings and chant things I can hear yet:

*The Assyrian came down like a wolf on the fold,  
And his cohorts were gleaming with purple and gold,  
And the sheen of his spears was like stars on the sea  
When the dark wave rolls nightly on deep Galilee.*

Don't tell me that is a poor poem; it may be the worst poem in the language—to me it is one of the best. It has gooseflesh in it, a chill and a thrill and a holy of holies of sheer beauty because I can still hear singing it, that most beautiful voice that ever sounded out of a human head, a voice that stopped, that went into silence, when I was nine. All these fellows sending me their verse, hardly a week goes by but another Sweeney does not turn up, do you think they send me their verses because I went to college? Nonsense, they send me their verses because I had a father and a mother.

"And wherever Sweeney is, there the little ones are gazing in wonder on the wisdom of his eyes, and building memories that will last them sixty years, and learning the love of things that are worth love, and growing human and not bestial—"

"What you mean," we interrupted, "is that all the world is out of step but you."

"I mean nothing of the sort!"

"Then what were you talking about?"

"I was talking about Sweeney," said the Old Professor.

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### *The Editor Says:*

In this issue R. J. Lang, who has been acting Head of the Department of Physics for several years, reveals a little of the work of the physicist in war time, enough to suggest that a voluminous and fascinating story remains to be told. Some of the more brilliant achievements spring originally from our own campus—as may also be seen in H. P. Brown's "History of a Building."

The "oldest inhabitant" of the Power Plant Building has already contributed a great deal of expert photography to *The New Trail*. His history of the building is definitely worthy of record. The same building has been the scene of most of the history of CKUA told by the former Director of Extension and present Registrar.

Dr. Dyde's paper on "The Living God" was delivered to the Men's Faculty Club of which Dr. Dyde has been this year Honorary President.

L. P. V. Johnson's article on Tree breeding has been in print for many months. Readers will remember his "Day at the University" in our last October issue. Dr. Johnson is employed by the National Research Council.

We are again grateful to Dr. Pope for paintings, but we regret that we have been unable to get the proper portraits into the proper issues!

*Coals of Alberta* has long been on our minds. Professor Pitcher long ago, as cool as flint, told us never to ask him for anything; we have consistently refrained. Just how his neat little review came into existence, we have no idea. But there it is—and "one of the finest pieces of work ever published in the field of fuels," although it seems a large statement, is nothing more than simple fact.

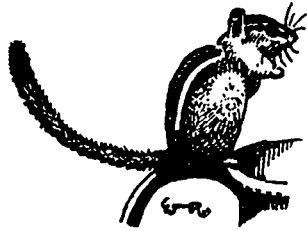
If we are to enter a peace-time millenium, the "poor man" of President Newton's Report to Convocation must find new and generous support. When Army supplies are needed, manufacturers can write their own specifications for factories, prices, and profits—but we give a man like R. W. Boyle a filthy hole in the basement of a Power Plant building [See p. 153] and call it an Ultrasonics Laboratory. Yet it might fairly be maintained that that miserable water tank did more to win this war, to say nothing of the last, than an up-to-date aluminum plant at Arvida, Quebec, that cost as much as the entire investment in this University, two hundred times over.

Housing is a question that is being booted around in most cities between local, provincial, and federal governments—net accomplishment: nothing. But Lieut.-Col. Strickland has found imagination and foresight and a willingness to get things done among members of the Provincial Government, that are worthy of the highest praise.

After the last war, we ceased to be a hero almost instantaneously. We are therefore reluctant to cut off free copies of *The New Trail* to members of the University in arms immediately upon their discharge. But the drain of these free copies upon our finances has been ruinous; our mere survival is a quarterly miracle. Further, among our plans is a Book of Remembrance in which we shall gather up in one all of our Honor Rolls. We cannot hope to achieve such a memorial, or to enter upon other plans for *The New Trail* as long as we carry the burden of free copies.

Meantime, may we plead with all readers to assist the War Records Committee so that our Book of Remembrance, when published, will be a complete record of University enlistments, promotions, casualties, and awards.





## the chipmunk

In the June *Chipmunk*, President Newton explained next year's program as follows: "Roughly our plans are these: Those [of the soldiers overseas] who get back by the end of September will go into the regular session, though we may have to go on double-shift teaching to accommodate them all. Those who return between September and January will be accommodated in a session beginning early in January and running through to September. In certain faculties, first-year students too late to register in January may be admitted to a summer term in May, 1946, and go into second year in September of that year, leaving the balance of their first year work to be completed the following summer."

In other words, we shall be teaching around the calendar and around the clock; and, as we said in this column long ago, the war will last a long time on the campus. Additional staff has not yet been appointed.

\* \* \* \* \*

On Thursday, May third, a distinguished alumnus of the University returned to the campus and, together with the "Administrative Officers of the University," was entertained at luncheon by the Chancellor of the University, the Chairman of the Board of Governors, and the President. A photograph of the group, taken by the only camera lens in Edmonton capable of such a wide-angled picture—and perhaps by the only photographer skillful enough for it—is printed opposite p. 180.

The Earl of Athlone at close quarters is a gracious and kindly gentleman, good-humored and urbane.

We dwell a little unduly on the occasion perhaps, but we do so not without reason, for the luncheon signalized something historical regarding *The New Trail*: an invitation was sent to the Editor. It is the first time we have appeared in the light of an "administrative officer of the University," and we are grateful, on behalf of our fellow-editors and associates and readers, for the recognition of *The New Trail* implied. Nevertheless, there will be seen in the photograph an expression of bewilderment on the editorial countenance. Like Fra Lippo Lippi, we wondered what we were doing "in this presence, in this *pure* company—Who but Lippo! I!—Mazed, motionless, and moonstruck."

\* \* \* \* \*

The largest Farm Young People's Week in the history of the University was held from June 7 to 14. The girls were honored with the first post-war occupancy of Pembina, but Athabaska and Assiniboia were not ready for the boys. Double-decker beds were arranged for them in the Air Force canteen and single ones in Athabaska Gymnasium.

In the enthusiastic company of Reg. Lister, the Editor recently inspected every room in the men's residences and some of those in Pembina. The rooms are being redecorated in many different color schemes and will be much more tasteful in appearance than formerly. Assiniboia will be completely devoted to single men students, and the suites are being converted. The Infirmary of Athabaska will no longer be necessary either. Reg. estimates that the three residence together will hold 450 students. A new lounge in the basement of Athabaska with comfortable upholstered furniture bought from the Air Force, looked inviting by the time we had finished inspection.

It is hoped that Athabaska will be ready for Summer School, as well as Pembina. Apparently both will be needed, for more than 1600 students have registered. Last year about 1100 attended.

A new short course is the "First Annual" refresher course in School Administration, held June 18-20. More than sixty school trustees, divisional secretaries, and other officials of school boards and school divisions attended.

\* \* \* \* \*

Four of the retiring members of the University staff have been appointed Emeritus professors: Dr. MacEachran, Dr. Rankin, Dr. Pope, and Professor Pitcher. No one will dispute the right of these persons to the distinction.

A number of appointments to the University staff have also been announced. Major M. L. Van Vliet will be Director of Physical Education. Since 1936 he has held a similar position at the University of British Columbia where he has been active in the COTC. He is a graduate of the University of Oregon where he played and coached in track, basketball, football, and baseball.

The new Librarian is to be Miss Marjorie Sherlock, Head Cataloguer at Queen's University. Miss Sherlock is returning home, for she graduated with First Class Honors in English from this University. Later she spent two years at Oxford with an I.O.D.E. Overseas Memorial Scholarship, graduating there with a B.A. from the Honors School of English Language and Literature. She has her Bachelor of Library Science from Toronto.

The new Extension Librarian is also a graduate of Alberta, Miss Flora Macleod. After taking First Class Honors in English and an M.A. here, she studied at Toronto on a Leonard Foundation fellowship and received her B.L.S. there. Later she worked in the Calgary Public Library.

D. J. McCracken has been appointed Associate Professor of Philosophy. He is a Ph.D. from Queen's University, Belfast, and has studied also at Oxford. He has been lecturing at Queen's University, Kingston.

In September we shall lose Miss Mary Winspear who has helped the Department of English to carry on during the war years. In addition, Miss Winspear has acted as Adviser to Women and done a splendid job in both capacities. Indeed, faced with an inevitable shortage of staff in the near future, we cannot see Miss Winspear go without regret; she is capable, modern, direct, and incisive, exactly the sort of person to win and hold the respect of modern girls. Her duties as Adviser are to be taken over by Miss Hazel McIntyre, Assistant Professor of Household Economics, whom we wish equal success in one of the most difficult and trying tasks in the entire University.

The new Provost will be Lieut.-Col. P. S. Warren who is relinquishing command of the COTC to Major Francis Owen. We understand that in future the Provost is to be appointed for a term of years and not permanently. Miss Mary H. Faunt, instructor in French, will be Warden of Pembina.

\* \* \* \* \*

On June 9th, under the friendly guidance of Dean Sinclair, the Editor barged into the strange realms of the University farm to attend the annual Feeders' Day. We are now expert in methods of feeding swine—human babies are at last being as well fed as pigs, we learn, and the formula of Pabulum is exactly the same, ground alfalfa and all, as progressive swine feeders have been using for many years. One enormous sow with whom we communed seemed to have a conscious pride in her little eye, as if to say, "What pigs eat today, human beings will eat tomorrow." We also know all about the advantages of cover crop for beef production—but we have our doubts, since cover crop seems to take something out of the soil that summer fallow leaves in, and the profits of today may drain those of tomorrow. Of the advantages of the dual herd, beef and milk, especially for the small farmer, we have no such misgivings; and we can also see the value of urea as a protein supplement for milk production—it is certainly cheaper than linseed oil—but the question of palatability puzzles us. Finally we are up the minute in knowledge of the abortion disease in cattle—only, we prefer to call it the failing sickness (i.e., the cow fails to come through with a calf). Through a long discussion, we were impressed by the tragedy of lost calves, but did not really prick up our ears until we heard that milk of cows suffering from failing disease, causes undulant fever in human beings. At the end of this particular discussion there was a question period, and we envied the instructor who has the privilege of a class so alert and interested and articulate.

At noon we enjoyed a parade of cattle and horses. One Hereford bull seemed especially magnificent in our eyes; and of course the horses remain the most beautiful of animals. In short, our net conclusions from the day were that it is a pity that human beings cannot be so herded as to make it profitable for somebody to feed them properly.

During the day we questioned a number of farmers as to what they got out of it. Universal opinion seemed to be that Feeders' Day means

profit. One cattle breeder said, "I can't afford to experiment with my small herd, but here they can do it—and I get the benefit." He had never missed a single Feeders' Day in twenty years. Dr. Sackville has passed along a letter to us which says, in part:

"You may be pleased to know that at the past field day, I was speaking to a farmer who had attended many sessions. He said that the University Field Day had been the greatest inspiration to him. This man stated that when he attended for the first time, it was out of curiosity; in fact, he said he had never before had a great deal of confidence in the University. However, the advice and information obtained at that first session convinced him of the usefulness and great service being rendered by the Institution. He remarked that as long as there is a Feeders' Day, he would be present *simply because he could not afford to miss it.*"

On June 9 there were nearly seven hundred farmers present. No doubt to many the day was a social gathering, but when seven hundred farmers travel hundreds of miles in the middle of a busy season, there must be more in it than a picnic.

There is more in it.

But the basic story is familiar: miracles accomplished with insufficient means. The Faculty of Agriculture, of which the Department of Animal Science is only a part, returns to the Province millions of dollars of value yearly—and the entire budget for teaching, research, and extension activities, is \$121,000. There are 100,000 farms in Alberta: the cost is \$1.21 per farm per year. This is not to say that the cost is borne by the farms alone; actually, farmers probably pay very little for this service.

The Faculty receives help, however, from outside sources. Some of our finest cattle have been given to us, and there are various grants from interested companies and persons, which assist research projects.

\* \* \* \* \*

The Secretary of the Alumni Association has recently reserved several copies of a Colonial office pamphlet entitled "Information Regarding Appointments for Women." The posts include administration, education, medicine, nursing, social welfare, etc., in the British colonies. Any woman graduate may secure a copy on application.

\* \* \* \* \*

The season in Edmonton has been cold and dry, and nothing has grown but dandelions. Rain has fallen since June 10, and crops, gardens, and lawns may recover. The University lawns never greened, but did burn before June. The dandelions were so thick that we felt it a shame to waste space that could have been used to grow potatoes. But A. W. Henry of the Department of Plant Science has an experiment behind the West Lab where he is trying to find out how to discourage or kill the yellow plague. We may yet be proud of our lawns.

## *University Honor Roll*

*These are they whom we delight to honor*

### AWARDS

#### Distinguished Service Order

Lieutenant-Colonel John Robert Blakely Jones, RCE, O.B.E., B.Sc.(M)  
1935: June, 1945.

#### Military Cross

Lieutenant Ernest Morgan Keith MacGregor, Applied Science, 1941-1942.

#### Order of the British Empire

Major Alan Fraser Macdonald, B.A. 1936, LLB. 1937: April, 1945.  
Colonel Karl F. Wintemute, Royal Canadian Army Pay Corps.

#### Distinguished Flying Cross

Flight Lieutenant Joseph Gilbert Middlemass, Arts and Dentistry 1936-  
1939: April, 1945.  
Flight Lieutenant Gerald Einer Wilson, Applied Science 1941-1942.

#### Croix de Guerre avec Etoile d'Argent

Captain Robert Whitla Ross, Calgary Highlanders, B.Com. 1941.

#### Royal Red Cross (Second Class)

Nursing Sister Mary Loggin, Diploma in Nursing 1931: June 14, 1945.

#### General Montgomery Certificate for Devoted Medical Service

Major Harvey William Fish, B.A. 1932, M.D. 1936: April, 1945.

#### Mentioned in Dispatches

Lieutenant George Edgar Allin, RCNVR, Arts 1940-1941: March, 1945.  
Lieutenant John Harper Corbett, RCNVR, B.A. 1941, LLB. 1942: March,  
1945.  
Flight Lieutenant Joseph Lloyd Greer, RCAF, B.A. 1939.  
Lieutenant-Colonel John Robert Blakely Jones, O.B.E., B.Sc.(M) 1935:  
March 19, 1945.  
Captain Terence Oldford, Agriculture 1939-1941: March 29, 1945.  
Air Commodore W. A. Orr, B.Sc.(E) 1932: June 14, 1945.  
Lieutenant Peter Naismith Pitcher, RCE, B.Sc.(M) 1933: April, 1945.  
Captain Robert Whitla Ross, Calgary Highlanders, B.Com. 1941: March  
29, 1945.

### CASUALTIES

#### Presumed Dead

Flying Officer Harry Kenneth Davies, RCAF, Applied Science 1940-1941:  
May, 1945.  
Pilot Officer Glen Richard Dunn, RCAF, Applied Science 1940-1942.  
Flight Sergeant Robert Lepsoe Jr., RCAF, Arts 1941-1943: October, 1944.  
Flying Officer William Andrew Payne, RCAF, Arts and Science 1939.

#### Died of Wounds While Prisoner

Captain Robert Allen Scott, Loyal Edmonton Regiment, B.Com. 1938:  
October, 1944.

#### Missing on Active Service

Flying Officer Wilfred Henry Brooks, RCAF, Agriculture 1942-1943:  
May, 1945.  
Flying Officer Kenneth Gordon Fenske, RCAF, Applied Science 1942-43.

Flying Officer Vincent Bernard Fleming, RCAF, Applied Science 1941: April, 1945.

Pilot Officer William Anton Semeniuk, RCAF, B.Sc.(Ag.) 1936, M.Sc. 1938, Ph.D. (Minn.): April, 1945.

Flying Officer Robert Aubury Thorne, RCAF, Applied Science 1940-1942: March, 1945.

#### **Wounded**

Major Harvey William Fish, B.A. 1932, M.D. 1936.

Lieutenant Vladimir Harold Kupchenko: April, 1945.

Captain Edwin George Pethbridge: April, 1945.

#### **Dangerously Ill**

Flying Officer Charles Gordon Michie, Applied Science 1942: April, 1945.

#### **ENLISTMENTS**

The War Records Committee is grateful to those readers who have been good enough to furnish information for the Honor Roll. In order to maintain correct and up-to-date records, the Committee renews its request for assistance and particularly hopes that service men and women and their next-of-kin will report changes of rank and address to the Assistant Registrar, University of Alberta.

The following names have been added to the Honor Roll since April 1945; in several cases the persons mentioned had been serving for some time previously.

#### **Navy**

Cummings, Edward Keith  
Duncan, Dorothy Jean (WRCNS)  
Ford, Austin Henry (Pay Branch)  
McKenzie, Charles Hugh  
Stansfield, Bernice Collins Dean  
(WRCNS)

#### **Army**

Allen, John Charles M.  
Armitage, Thomas Franklin  
Harvey (RCAMC)  
Belzberg, S. I.  
Belzil, R. H.  
Brown, Charles Gerald  
Buckley, Robert Roy  
Burwash, Ronald Allan  
Clayton, Margaret Louise  
(Dietician)  
Dunham, Burt (RCAMC)  
Fish, Arthur William  
Fraser, Joseph Alexander  
Harvey, Donald Southam  
Hole, Jack Henry (RCEME)  
Jackson, William Burley  
Kenwood, John Wooster  
Line, William  
Manifold, Albert Hedley  
Manyluk, Alexander Frank  
Matthews, George Charles  
Miskew, John William (RCAMC)

Nelson, Leslie William  
Nicholls, John Henry  
Nonnecke, Ibner  
Quirk, Louis Athole  
Rosher, Frank William  
Roxburgh, Douglas Brant  
(RCAMC)

Sestrap, Leyda (RCAMC)  
Tomaszewsky, Edward Emil  
Trott, Raymond Howe (RCAMC)  
White, Harry Edward

#### **Air Force**

Bradley, George Cameron  
Dunn, Glen Richard  
Filteau, John Frederick  
Fleming, Vincent Bernard  
Hinch, Lloyd George  
Payne, William Andrew  
Reid, James F.  
Riddle, Franklin Meredith  
Wellwood, John Perley

#### **U.S. Army**

Bentley, Forrest Glen  
Whitehead, George Arnold

#### **Service Not Known**

Armitage, Thomas Franklin Harvey  
FitzOsborne, Donald James  
McRae, Charles Edmund  
Wood, Lorne George

## *Some an Hundred Fold; Some . . .*

By A. J. Cook

NOTE: Another indication of the growth of the University is seen in the formation in the spring of 1944 of the University Committee on Scholarships and Prize Awards. The Committee is representative of all the University faculties and is charged with the development and administration of policy in regard to all academic awards. The present chairman of the Committee is A. J. Cook of the Dept. of Mathematics, and the secretary is G. B. Taylor, Assistant Registrar.

A study made by the Committee during this year of the relation of the top-ranking performance in the Matriculation examinations to entrance to the University is described in the present article. The findings of the Committee should be of general concern to all graduates.

In its first year of operation the Committee on Awards has had many pressing matters to attend to, but from its inception the members of the Committee were convinced that some effort should be made to develop a coherent view of matters pertaining to good scholarship among students. To this end the Committee through the courtesy of the Department of Education obtained the records of the two hundred top-ranking Grade XII students in the June examinations of 1935. This year was chosen as the latest possible pre-war year, since students who entered the University then in most cases would have completed their under-graduate courses before the outbreak of war. We were interested in such questions as:

- (1) How many of the 200 students entered the University?
- (2) What kind of work did these students do in the University?
- (3) Of those who did not come, what were the causes of their absence?

The answer to the first question is easy. Forty-two percent of the top-ranking Grade XII students in 1935 came to the University. Of the remaining fifty-eight percent, we can make a reasonable inference as to why they did not come because we wrote to them to find out. Naturally, with the passing of nine years many of our letters were returned undelivered, but we had forty out of one hundred and sixteen possible replies, and these forty people had Grade XII marks well representative of the original two hundred students. Of these forty students, thirty-six stated categorically that they could not come because they were financially unable to do so.

This same situation is apparently reflected in the progress of the eighty-four students who did come to the University. Sixteen of them were unable to complete their courses; fifteen of these never got beyond first year and one student stopped after two years. Yet the academic work of these sixteen students was satisfactory.

The Committee was naturally interested in the mental quality of the two hundred top-ranking students. The average Grade XII mark for

each student was computed and it was found that these ran from 69 percent to 91, with a mean mark of 76.3. The eight-four students who entered the University were an excellent sample of the two hundred, with the same range of from 69 to 91 marks distributed in the same way, and with the mean of 76.8. Thus, of the fifty students in Grade XII who had averages of 80 or better, twenty entered the University.

The Committee studied in some detail the University performance of the sixty-two students who survived to graduate from the University. This table summarizes the results:

| Percent Graduated | Quality                                | Mean Grade XII Mark |
|-------------------|----------------------------------------|---------------------|
| 19                | <i>First Class degree</i>              | 81.2                |
| 31                | <i>Better than<br/>ordinary degree</i> | 78.7                |
| 50                | <i>Ordinary degree</i>                 | 74.3                |

It will be noted that the higher the Grade XII mark, the better the work done in the University tends to be. Further, this inference is borne out in a study of 1945 data in relation to top-ranking performance at the University. This study has convinced the Committee *that students who have Grade XII averages of 70 percent or better are "good risks" in relation to University work. Hence every effort should be made to see that such students are given the opportunity to enter and to carry on studies at the University.* Should such students lack the means to undertake a University course, money should be provided.

What actually happens in lean times is clearly shown by the 1935 study. But to a lesser extent this wastage occurs all the time, and the Committee is convinced that such wastage is both unnecessary and harmful.

In order to eliminate this evil, funds are needed. During the war a Dominion-Provincial fund for grants-in-aid has been operated and found necessary. This in itself is interesting because war years are prosperous years. The Committee believes that *government funds for student aid are indispensable and that the amount of such funds should be greatly increased.*

Naturally, the University would welcome funds from any source. We understand that the Alumni Association is seriously considering a war memorial fund to provide scholarships.

We have tried to indicate briefly the basic and ever-present necessity for student aid. In our opinion the Alumni association can devise no finer war memorial than some scheme of assistance to deserving students.



## *Report to Convocation*

BY ROBERT NEWTON

I am pleased to report another successful session concluding today. The total number of students in the University in this sixth year of war was 2631. This appears to be a decided upturn from the level of about 2000 we had maintained after the initial wartime decline. Actually the whole gain may be ascribed to our absorption of the Department of Education summer school, which increased our summer session enrollment to 1070 as compared with 325 the previous year.

Integration of teacher-training, towards which the amalgamation of the University and Department of Education summer schools was the first step, has now been completed, and constitutes one of the highlights of our year's history. At the invitation of the Minister of Education, the University has accepted full responsibility for all teacher training in the Province. The staffs of the two Normal Schools have been added to the Faculty of Education, and the Normal School buildings placed at the disposal of the Faculty. To maintain liaison between the bodies concerned, a Board of Teacher Education and Certification has been established, with representatives of the Department of Education, the University, and the Alberta Teachers' Association. Longer and more varied educational programs have been approved, in order to raise the standards and broaden the scope of the profession. The whole movement marks a progressive step in the recognition of teaching as a learned profession, entitled to its own university faculty.

An unusual feature of the year, which we accept with mingled feelings, is the retirement of seven members of the staff after long and honorable service to the University. They were all firsts in quality, and six of them were firsts in order of appointment. Dr. John Malcolm MacEachran was the first Professor of Philosophy, the first Provost, and is the last of the initial group selected by President Tory to initiate the Faculty of Arts and Science. He has given thirty-six years' service to the University. Dr. Allan Coats Rankin was the first Professor of Bacteriology and Hygiene, and the first Dean of the Faculty of Medicine. He gave the University thirty-one years' service. Professor Norman Charles Pitcher, first Professor of Mining Engineering, retires after twenty-five years' service. Dr. Egerton Llewellyn Pope, first Professor of Medicine, retired last fall after twenty-one years' service. Miss Jessie Montgomery was the first Extension Librarian and has served the University for thirty-two years. Dr. Evan Greene has been Professor of Anatomy, and lays down this office after twenty-five years' service. Dr. Harry Alexander Gilchrist, first Professor of Prosthetic Dentistry, retired in January with twenty-three years' service to his credit.

We bid official farewell to these colleagues with grateful appreciation for their services and their friendship. Our regret at their retirement is

happily tempered by the knowledge that all but one of them have announced their intention of continuing to live in Edmonton where we may still enjoy their friendly contacts. Their departure from the staff of the University marks the end of an era. The University has grown up. It now takes its place among institutions which are mature yet never grow old, being constantly rejuvenated by a stream of young blood.

Though both political and military leaders were cautious about predicting any probable date for the end of the war, there were not lacking throughout the session signs of their confidence that this was approaching. The closing in November of No. 4 Initial Training School, RCAF, which had occupied our University residence halls for three and a half years, led to negotiations, which were completed in March, for the return of these buildings to the University. They are now being refitted and redecorated for reopening with the summer session. The disbandment of the University Air Squadron at Christmas mystified us a little, since we had understood all three Armed Services intended permanently to maintain units on a similar basis to the Canadian Officers' Training Corps. However, the Minister for Air later intimated that it was hoped to revive the university squadrons after the war. The last of a series of sixteen-week courses for naval ratings training as radio or electrical artificers terminated at Christmas. During the three years these courses were in operation, 933 naval ratings passed through them. They were organized at the request and with the co-operation of Engineer Rear Admiral C. L. Stephens, Chief of Naval Engineering and Construction, Ottawa, who is our Convocation Speaker today. During 1941-42 we had given somewhat similar courses to 200 airmen preparing to be radar mechanics. Finally, among signs of approaching peace, acceleration of medical and dental courses has been replaced by deceleration, a process of gradual return to a normal basis.

V-Day in Europe was really D-Day in Canada. Now we must put in motion our plans for rehabilitating returned veterans and building a better world. The presence in our midst this year of thirty-four returned student veterans has given us a useful preview of their needs. We may easily have ten or twenty times that number next year. The mere physical problem of accommodating them will be very great. Professor E. H. Strickland, himself a veteran of both wars, has been appointed Director of Rehabilitation Courses in the University, and is hard at work on plans for admitting returned men and women three times a year, in January, May, and September, instead of in September only. Mr. D. E. Cameron will shortly be relieved of his duties as University Librarian in order that he may devote full time to advisory work with student veterans.

The universities of Canada could join in the celebration of VE-Day with a good conscience. They have done their part in making victory possible. Naturally their direct contribution of men and women to the Armed Forces takes pride of place. Up to February, 1945, this University had records of well over 2000 enlistments among its sons and daughters. Of these, 130 have given their lives in the great cause of freedom and

justice. This University has contributed also its full share to the steady stream of technical personnel required by this highly technical war, and played its full part in solving the innumerable scientific problems posed by the war. When the necessary veil of secrecy is lifted and time permits the preparation of an adequate report, these contributions will be more apparent.

Occasionally men of science are reviled by those who think their contributions have resulted merely in bigger and costlier wars. We read in the papers lately (May 11) that Canadian casualties up to VE-Day included 37,206 dead. That is a heavy price, indeed, but it is still far short of the price in human life we paid in the First World War. Considering the greatly augmented might against which we were pitted this time, we must honor our scientists for their success in substituting machinery for human flesh and blood, and in perfecting the means for saving the wounded from fatality.

In Ecclesiastes we read:

"There was a little city, and few men within it; and there came a great king against it, and besieged it, and built great bulwarks against it:

"Now there was found in it a poor wise man, and he by his wisdom delivered the city: yet no man remembered that same poor man.

"Then said I, Wisdom is better than strength: wisdom is better than weapons of war: nevertheless the poor man's wisdom is despised, and his words are not heard."

The writer of Ecclesiastes had a profound knowledge of human nature. In extremity we go back to fundamentals. When the danger is past we easily forget those who have helped us. We called upon our universities and our research institutions for help when great armaments were launched against us. Without their help there is no manner of doubt we should have lost the war. Are we yet fully awake to the danger of once more losing the peace, and with it our civilization? The forces of evil have been scotched, but not killed. Shall we forget the poor wise man because the danger is less obvious, less imminent? Because it is more insidious, it is all the more dangerous.

There is desperate need to restore sanity in the world, to replace selfishness by magnanimity, the law of the jungle by the golden rule. Education alone will not do it, but in education of the right sort there is lifting up, just as in education of the wrong sort practised by Germany there is pulling down.

Is our educational system developing good citizens, Christian neighbours, world-minded men and women? We should like to answer, Yes, but the evidence is against us.

A British report on the Recruitment and Training of Teachers issued last year explains that, "We have not yet emancipated ourselves from the tradition of educating our children on the cheap." Local press reports during Education Week, November 5 to 11, 1944, revealed that in every province of Canada there are hundreds of "teachers" employed who have little or

no professional training—perhaps a summer course, or a three-month short course, or no course at all. We insist that surgeons shall have long years of training before they operate on the bodies of our children, but we nonchalantly permit untrained high school girls to operate on their minds. Truly the world is topsy turvy.

The whole structure of our educational system needs radical strengthening from bottom to top. Most people give lip service to education as a potent instrument for building a peaceful world, but comparatively few are ready to add the price of one battleship to what is being spent on education in Canada.

Good is the only antidote for evil, beauty for ugliness, truth for error. These things we can secure if we are willing to spend enough on the right kind of education.

"LUNCHEON, MAY 3, IN HONOR OF HIS EXCELLENCY THE  
EARL OF ATHLONE."

*Persons Present*

Clem L. King, Executive Assistant to the President  
 A. W. Matthews, Commanding Officer of the University Naval Training Division  
 R. K. Gordon, Acting Dean of the Faculty of Arts and Science  
 W. Scott Hamilton, Dean of the Faculty of Dentistry  
 A. E. Harper, President of the Students' Union  
 A. C. McGugan, Superintendent of the University Hospital  
 R. S. L. Wilson, Dean of the Faculty of Applied Science  
 Major Clayton, Aide to His Excellency the Earl of Athlone  
 A. C. Rankin, Dean of the Faculty of Medicine  
 The Honorable Mr. Justice Ford, Chancellor of the University  
 His Excellency the Earl of Athlone  
 The Honorable Mr. Justice Parlee, Chairman of the Board of Governors  
 The Honorable J. C. Bowen, Lieutenant-Governor of Alberta  
 Robert Newton, President of the University  
 R. E. Staples, Chairman of the University Hospital Board  
 J. M. MacEachran, Provost of the University  
 Captain C. V. Dacre, Aide to Lieutenant-Governor Bowen  
 R. D. Sinclair, Dean of the Faculty of Agriculture  
 J. W. Scott, Director of Medical Services to the University  
 Donald Cameron, Director of Extension  
 R. M. Hardy, Commanding Officer of the University Air Squadron  
 F. M. Salter, Editor of *The New Trail*  
 A. E. Ottewell, Registrar of the University  
*Standing:* Alice Westerberg, Hilda Hannah, Jessie Mitchell, Mrs. Bartlett



LUNCHEON IN HONOR OF HIS EXCELLENCY THE EARL OF ATHLONE

*Photograph by H. P. Brown*



THE BRIDGES

*By Egerton L. Pope*

## *For Merit*

*Professor Norman Charles Pitcher*

Looking ahead, a quarter of a century seems a long time; but looking backwards, an equal span of years "seems but yesterday." I find myself in just that attitude of mind as I pen this note of tribute to a colleague, Professor Norman Charles Pitcher, who has just made his exit from the last class under his direction at the U of A, after a faithful service of 25 years as Professor and Head of the Department of Mining Engineering.

It is customary to record chronologically events in a man's life from the time he first saw the light, but I will depart from this cut and dried plan. True it is, he was born in Montreal in the latter part of last century and true it is he first saw the light between the Appalachian highlands and the Precambrian Shield on the lowlands of the St. Lawrence valley near Montreal and close to the Champlain fault, which was probably formed as a result of the Taconic revolution that affected that eastern part of the North American continent. It was natural that with such a geological surrounding in the Eastern Townships of Quebec, this young man should later turn his interest to materials within the "earth's crust." At a very early age it was evident that he was not "cut out" to follow in the clerical footsteps of his esteemed father, so he went to college to prepare himself for the reformation of some phase of engineering.

As a third year student in the Department of Mining Engineering at McGill University in 1898, he was a member of the mining trip to the Nova Scotia coal mines. On graduation in 1899 he had the choice of a job in the coal mines of Nova Scotia or in the metal mines of Ontario. He chose the former and remained with the Dominion Coal Company at Glace Bay until 1909 when he headed for the west and the open prairies where coal mining was in its infancy. For two years he was associated with No. 6 Alberta Railways and Irrigation coal mine at Lethbridge. In 1911 he joined the North American Collieries, built the coal tippie at Kipp, supervised the mining operations at Beaver mines in the foothills southwest of Pincher Creek, the Lovett mines on the Coal Branch south of Edson, the St. Albert mine near Edmonton, and a coal stripping operation at Dodds. All these operations he soon closed down as uneconomical under existing conditions.

In 1914 he moved to Edmonton, and, as general manager for the North American Collieries, directed all the mining operations of this company at the centers mentioned above and also at Evansburg.

At the close of the First World War we organized an embryonic Department of Mining Engineering at the University of Alberta. One bright spring morning in 1920 President Tory called me to his office to consider a possible appointment to the headship of the new department. My acquaintance with all the mining engineers in Alberta, made it easy to suggest the most qualified for this position, both professionally and because

of his thorough knowledge of coal mining in Canada at that time. In 1920 Norman C. Pitcher joined the teaching staff at U of A, and as Professor, undertook the task of building up a department which in the ensuing 25 years has trained many men who have taken prominent places in mining engineering throughout Canada and abroad.

In the 25 years that have elapsed since his appointment to the headship of the Department of Mining Engineering, no less than 214 students have graduated from this department. These students are now distributed throughout five continents, and several have reached important positions of responsibility. The success of these graduates from this University has in no small way been due to the wise counsel and practical instruction received from Professor Pitcher. A number of these graduates in Mining Engineering have been commissioned in His Majesty's Services, particularly in the Royal Canadian Engineers.

In extracurricular activities Professor Pitcher has rendered service on various Royal Commissions and on various enquiries related to the coal industry and on industrial relations. The University throughout these years has benefited by his mature judgment on educational matters of principle and practice.

He has frequently been spoken of as the man who knew so much and said so little—in other words, a good listener. His soundness of judgment and depth of knowledge on professional matters are recognized by those who know him best, but he dislikes public speaking.

He has a deep interest in all the graduates from this Department and has followed their careers closely. In no small way has he assisted them to make progress in their young careers. He recognized ability and willingness on the part of the student. His jovial nature and dry witticisms are well known to his friends.—No, Mr. Editor, I am not going to record any of the several amusing anecdotes Mr. Pitcher has sometimes related to us about mining or about certain unusual maritime individuals.\*

The students in Mining Engineering and his staff colleagues will long remember the hospitality extended by Professor and Mrs. Pitcher in their home. The family of three daughters and one son, though scattered, are closely united. Peter, a graduate in Mining Engineering from U of A, won distinction a few months ago on the field of battle in Europe with the Royal Canadian Engineers and has received a decoration for valor.

Without doubt Professor Pitcher has a most thorough knowledge of the pioneer history of coal mining in Alberta and of requisite mining education. The wish is expressed that he will find the time to record in printed form these observations.

In expressing appreciation for pleasant associations through two and a half decades, I join with his many friends and colleagues and former students in extending to him our very best wishes and the sincere hope that both he and Mrs. Pitcher will enjoy many years of happiness and good health.

J. A. A.

\* Editor's Note. Alas!



## DR. EVAN GREENE

Although not one of the original faculty of the University of Alberta, Dr. Evan Greene has been closely connected with it from the start. He was a busy Edmonton physician when Dr. H. M. Tory came here to talk over the proposed University. When the medical course was begun, he served as part time instructor. When the full course was put on and Col. F. H. Mewburn made professor of surgery, Dr. Green became his chief of staff. Dr. Mewburn set high standards and led and drove his students up to them. The partner who contributed to the success of this remarkable man was Dr. Greene.

After the death of Dr. Mewburn, Dr. Greene gave up private practice and devoted his full time to teaching elementary and advanced surgical anatomy.

The teacher of anatomy works under several handicaps. His is a mature subject. Research continues on the outer fringes, but most of it is far from the area where undergraduates study. The students feel it is all old stuff. The glamor of research does not invest the teacher. In addition the teacher and students must revel, or at least wallow, in detail. The little things of the human body will be matters of life and death later on. A good teacher must soak himself in detail until it is part of his subconscious self. He must retain enough common sense, pedagogical sense, and sense of proportion to sift out the more important from the less, to prune the course to the learning capacities of his students, and must give a meaning to it all for the weary and confused.

Dr. Greene possesses these qualifications to a high degree. As a surgeon he learned the value of anatomical detail, and he has the inborn love of structure that is common to savages, children, and scholars. His practical experience taught him which are first things. He is a master of the tutorial method. He lectured enough to start the students dissecting in the laboratory. When the student was hopelessly tangled in a mass of detail, Dr. Greene could walk to the table, pick up some insignificant part, and with a few casual remarks assess its value in the human body and in the student's future life. The casualness was art concealed, a deftness not achieved by the ordinary teacher.

R. F. S.

## JESSIE FLEMING MONTGOMERY

On June 30th, 1945, Jessie Fleming Montgomery retired from the position of Librarian of the Department of Extension of the University of Alberta after 32 years' service. Thirty-two years is a long time to serve the public in any capacity, but it is given to few people to fill such an interesting role as has Miss Montgomery, because in very truth she has been Librarian to Alberta's Hinterland.

Over the years, isolated women's institutes on the prairies, struggling branches of the United Farm Women in Alberta's pioneer fringe, lumberjacks in the logging camps, miners on the Coal Branch, and school children

in the dry belt, have all come in touch with the world of books through the efforts of Miss Montgomery and her staff.

From the early days of 1913 when the Extension Library was started under Miss Montgomery's direction, the policy has been to supply books to those in the rural communities and in the remote areas of the province. Hundreds of boxes of books have been sent out as travelling libraries. More recently, through the privileges of the open shelf library, good books and authoritative works in many fields have been made available to thousands of people who otherwise would not have had them.

Directed reading courses conducted by Miss Montgomery have been responsible for giving more than one person inspiration for a new start in life. While the demands on Miss Montgomery's time have been endless, she has at all times carried out responsibilities cheerfully and with a high sense of public duty.

Although born in Canada, at Galt, Ontario, Miss Montgomery received most of her education in Scotland at Greenock Academy. She returned to Canada in 1904 and taught for a time in pioneer rural schools in Alberta before joining the city staff in Edmonton. Her experience in rural communities gave her an invaluable insight into what an extension library service could mean to people in remote settlements.

After teaching for a few years, Miss Montgomery entered one of the early classes of the University of Alberta. She graduated in 1914 with first class honors in French and the Grace Ferris gold medal in modern languages. During her University course she found time to study German, Latin, and Greek as well as the regular Arts subjects, and she achieved distinction in all her work.

In 1913, Miss Montgomery joined the staff of the Department of Extension on a part-time basis and had the responsibility of organizing the travelling libraries. In 1914 she left Alberta for a year to attend the University of Wisconsin Library School. Graduating from that institution in 1915, she returned to Alberta to become full-time Extension Librarian.

In 1932 Miss Montgomery was granted a Carnegie Fellowship for the purpose of studying Regional Library schemes in Great Britain, and spent a year travelling and visiting regional libraries throughout England and Scotland.

Well qualified scholastically and professionally, Miss Montgomery has applied herself to her task with keenness and insight. She has made wide personal contacts and many warm friends among the people of Alberta.

Her attitude has always been one of "How can I serve," and by drawing on her own rich background she has been able to make a fine contribution to the cultural life of the province. It is the wish of her many friends in town and country that she may be granted many years in which to enjoy a well-earned leisure. In the meantime, hundreds of communities will treasure pleasant memories of happy hours spent in the realm of books, and will remember with affection the friendly, white-haired lady who to them was Alberta's first Librarian to the Hinterland.

D. C.

## *Books of Our Own*

*COALS OF ALBERTA* (Research Council of Alberta, Report No. 35, 1944), by Edgar Stansfield and W. Albert Lang

### *The Fuel Engineers' Bible of Alberta Coals*

This is not a review but a comment and a commendation of one of the finest pieces of work ever published in the field of fuels.

Detailed and technical enough for the scientist, it is so simply and clearly written that the general public can read and understand the whole presentation.

Divided into six parts, this report covers the following:

Part I.—Occurrence, Classification and Production of Alberta Coals.

Part II.—Notes on Analyses, Special Tests and Terms.

Part III.—General Properties of Coal.

Part IV.—Preparation and Utilization of Coal.

Part V.—Combustion of Coal.

Part VI.—Analytical and Technical Data by Coal Areas.

The authors say that the Report is "a compilation of test and other data obtained by the staff of the Research Council of Alberta working in co-operation with the Mines Branch of the Department of Lands and Mines of Alberta. References to, and data from, published reports of the Fuel Testing Division, Bureau of Mines, Canada, are also included."

There are many unique parts to this report which make it exceptionally useful to the fuel producer, sales agent, and consumer, such as clear and simple explanations of a method of calculating the dollar value to the purchaser of any particular coal, the generally confusing question of net and gross heat value, the effect of the fusion temperature of ash, the effect of moisture content on storage, significance of analyses, classification, preparation, utilization and combustion of coal—to mention but a few of the items fully explained and discussed. There is possibly not a question which can be asked concerning the coals of Alberta which is not answered simply, exactly, and adequately in this report.

Reviews by the daily press and technical journals have been uniformly complimentary. The Canadian Mining and Metallurgical *Bulletin* of December, 1944, says in the conclusion of its review:

"This is in every way an admirable report. It is based mainly on tests and analyses that have been made over a long period in the laboratories of the Research Council of Alberta, at the University of Alberta, by and under the direction of Edgar Stansfield (from 1921 to present) and W. A. Lang (since 1924). We congratulate both authors on the excellence alike of their selection of material and on the very clear manner in which it is presented."

The whole report reflects the careful, painstaking, and accurate work of twenty-five years by Mr. Stansfield and his chief assistant Mr. Lang, assembled and presented in a most useful way.

N. C. P.

## *Temporary Homes for Married Veteran Students*

BY E. H. STRICKLAND

Undoubtedly, all General Service men are familiar with the generous Federal Government rehabilitation scheme for assisting veterans with the necessary qualifications, to obtain a university education as soon as possible after their return to Canada.

Just how the universities are to cope with the consequent influx of additional students no one seems to know. The suggestion that, for the next few years, all women students may have to attend lectures on the laps of the men students does not seem to meet with universal approval and, it is believed, some alternative method for obtaining the necessary accommodation should be found.

In addition to this inevitable over-crowding of class-rooms there is another, quite serious, overcrowding problem to be faced. In common with other Canadian cities, Edmonton has been quite unable to keep up a home-building programme in any way commensurate with what appears to be her permanently increased population. Despite the fact that new houses keep popping up overnight like mushrooms, many of them in such small spaces between existing homes that one hardly realized these to have been vacant lots, there are no prospects that, during the next few years, any normal accommodation will be available for the married veteran who wishes to bring his family to Edmonton for the three or more years in which he will attend the University.

Before we proceed to a discussion of the reasons why we believe he must, whenever possible, have his family here with him during these years, let us hasten to assure all who are personally interested that our Provincial Government has taken full cognizance of the situation and, in conjunction with the City of Edmonton, is taking adequate steps to cope with it.

Those of us who, in Army camps, have had to face problems connected with the return of veterans who were married before they left Canada, cannot blind ourselves to the fact that "family rehabilitation" is, all too often, a very real problem. During his absence of up to three years or more in a foreign country it is inevitable that a soldier's outlook on life has changed somewhat. The home life he is about to resume, even, is somewhat unfamiliar to him. During his absence his children have grown almost to be strangers to him while his wife, admittedly, may have developed a few grey hairs which had not been evident when he left.

The call of duty has brought about an inevitable and a prolonged family separation with its attendant dangerous possibilities of divergent interests. But the family remains, withal, the unit upon which the happiness of all who belong to it depends. The sooner it is re-united under the same roof, the sooner will the essential unimportance of divergencies in outlook become apparent to all concerned and the sooner will reconvergence to a united home life be effected. No family is entirely immune from

these dangers, and no veteran should dare to contemplate immediate entry upon a University career on his return until he has assured himself that he will not, thus, lengthen the almost complete separation from his family by a possible three or four additional years. Furthermore, he will be in a far better state of mind to make the best use of his opportunities for study than he might be were he to suffer from the constant distraction of worrying as to how his family is getting along elsewhere.

If the statements which were made to us when we were in England over a year ago are correct, there is another group of married veterans whose future home-life demands even more careful consideration in this connection. It would appear that Canadians have proved to be most attractive to many an English girl. Possibly this statement should be reversed or we should, at least, state that the attraction was mutual, but we rather fear the personal repercussions from some of our unmarried Canadian girls if we stress this point too much. We can avoid this delicate subject by stating, simply, that we have reason to believe that some twenty-five percent of the veterans who spent a number of years in England may return with English brides. But "brides" is hardly the most suitable word to employ, despite its romantic sound, for many of these wives will be accompanied by one, some with two, a few with three, and possibly, in rare instances, with more than three young Canadians-to-be.

How do housing conditions in Edmonton affect such of these warriors as propose to embark on a University training on their return to Alberta? Obviously, in the majority of cases, they are not proposing to establish permanent homes here even were those homes available to them. All that they require in Edmonton is an abiding-place for their families for a few years after which time they will establish their permanent homes elsewhere in the province.

In the case of these new families, one need hardly stress that Canada and Canadian ways are very different from England and English ways. As to which are the better, or why, are matters of which the less said the better. The only thing that counts, in this connection, is the fact that they *are* different.

Of course, each of these men has explained, in detail, to his wife exactly what she can expect to find in Canada, and, equally "of-course," she has seen it all with English eyes and, in consequence, knows nothing about it. She has, as yet, no idea as to how she may develop into the "Mrs. Canadian" of her soldier's dreams. She has a great deal to learn, a great deal to forget, a great deal to appreciate and a great deal to learn to tolerate. All of this, inevitably, will take time, and it is the first few years after her arrival which will largely determine the success with which she will be re-modeled as a happy Canadian housewife. During this period, there is one man only in the whole world with whom she must be living from day to day. It was, solely, to be with him that she has come to live in Canada. Not only her happiness, but that of the whole family may hinge upon the success of her introduction to the Canadian way of living.

Since, in Canada as elsewhere, happy homes are the bedrock of all that is worth while, some of us feel that assurance of their successful inception overshadows all other considerations. At the same time, we feel that no veteran must be deprived of the opportunity to prepare himself, to the best of his ability, for the support of that home because attendance at the University would entail a temporary separation from his family at this all-important stage in its development. This brings us back to the problem of housing these families in Edmonton.

For unmarried men and women there are University residences together with some opportunities for renting rooms elsewhere. In their cases, the housing problem is simple, but for families the picture is very different. Do not blame the residents of Edmonton over-much. Their problems are the same as those the world over. Home owners, though many are prepared to rent a single room to a bachelor, more than hesitate to accommodate a family for whom house-keeping arrangements are a necessity. Whatever may be the reason, such accommodation is unobtainable at present in Edmonton.

It is here that the Provincial Government and the City authorities come into the picture, and this is what they have promised to do.

As near to the University as is possible, and we say this advisedly for, though both authorities are doing their best, they may not be able to build them as close as some of us might wish, a series of small suites of rooms are to be erected this summer. These will accommodate at least one hundred veteran students' families. If occasion demands, there are plans to increase this number for future years. It would be unwise to attempt any description of these apartments at the present time, for architects are still deciding upon their final pattern. Their exact location, even, is still under discussion.

We are assured, however, that, though circumstances demand that they be reconstructed from army camp buildings, much thought is being given to making them attractive temporary residences. At the same time, steps are being taken to keep down their rental to one well in accord with the Federal Government grants to married veteran students.

By present plans, these suites are to be rented on a twelve-month term, renewable annually, to any married veteran for as long as he is in attendance at the University, and they will be reserved for the accommodation of such veteran students for as long as their demand for them exists.

We can, thus, visualize a compact community of the families of veteran students who are attending this University, not only during the winter, when the husbands will be at home, but also during the summer when many of them may be far away "in the bush" or in mining camps, &c., where they will be accumulating funds, additional to their Government grants, towards the establishment of that permanent home which is the goal of their present activities. In this environment, newly arrived wives will still associate with the older hands at Canadian ways while each husband will know that his family is well and happily housed, and is happily awaiting the day on which he will return to resume his University studies.

## *Trail Blazers*

GEORGE ROY STEVENS

B.A. 1915

A Nova Scotian by birth, Roy Stevens entered the University of Alberta in 1912 from Okanagan College. He was evidently a "live-wire" from the beginning, for a thirty-year old *Gateway* speaks of him as "one of those rare combinations of business ability and imagination which leave their impress on anyone or anything with which they are associated." In the relatively small group of those early days he must have cut quite a swath; not content with administrative work for all athletics and active participation on championship rugby and basketball teams, he found time to write for the *Gateway*, to maintain active membership in the English Club and to stimulate dramatics. However, towards the end of his academic career sterner things than these were occupying men's minds and by April of 1915 he was in the army.

Out of the next four years Mr. Stevens spent thirty-eight months overseas. By August he was in France with that famous regiment, Princess Patricia's Canadian Light Infantry. First as a sergeant, then as a subaltern he was in the thick of things, being wounded at Sanctuary Wood and gassed at Passchendaele. On his return to Canada he lost no time in resuming civilian life. After a period of training in Eastern Canada, Mr. Stevens became one of the first, if not the first, Canadian Trade Commissioner and proceeded to Kingston, Jamaica. From then on to 1934 the world was his parish, a continent at a time. In Africa he was stationed at Cape Town, in South America at Lima, in Australia at Melbourne. Here he decided to go into private business. What that business was or has been is, unfortunately, not a matter of record. Nevertheless what is known of George Roy Stevens seems undoubtedly to qualify him as a distinguished graduate of the University of Alberta.

ERIC WYLD CORMACK

B.Sc.(Agriculture) 1925, O.B.E.

On a bright autumn day in 1924 those University folk who were watching the mile run in the Intercollegiate track meet were more than amused to see a lanky green and gold athlete tear away from the field at the gun, get a commanding lead by the end of the first lap, and finish at least one hundred yards in front of his nearest competitor. Even so, the judges' reports showed a time two-fifths of a second greater than the record Mr. Cormack had set a year before. Although this Scottish-born runner was several years older than his contemporaries (old enough in fact, to have been a captain in the British Army, to have been wounded and gassed in 1918) he regularly showed them a clean pair of heels.

Contrary to the practice then fashionable among agricultural graduates, Eric settled down to farming near Alix. For this there was one very good

reason, namely, his marriage soon after graduation to Barbara Villy B.A. '24, whose home was at Alix. It was not long, however, before he was persuaded to spend the fall and winter terms as an instructor on the staff of the provincial Schools of Agriculture; he was dean at one of these, Vermilion, in 1940, when he decided to answer the call to duty a second time. By February, 1941, he was a lieutenant-colonel commanding the 16th Field Regiment of the Royal Canadian Artillery. After proceeding overseas, Eric took the 8th Light Anti-Aircraft Regiment, RCA, to the continent. He suffered wounds in the left leg and arm, was hospitalized in Antwerp, and made a rapid recovery "thanks," he says, "to the new penicillin and sulpha drugs." Early in 1945 National Defence headquarters at Ottawa announced that he had been made an Officer of the Order of the British Empire.

Doubtless this athlete-cum-farmer-cum-soldier is just as anxious as any other warrior to return to his wife and sons at Glen Laverock Farm, near Alix, Alberta. He has served his country well.

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#### FRIENDS OF THE UNIVERSITY\*

##### Quarterly Report

##### New Friends:

|                         |                         |
|-------------------------|-------------------------|
| Lieut. W. J. Blackstock | J. T. Madill            |
| Mrs. R. J. Doyle        | Lieut. G. Manning       |
| Miss A. E. Ladler       | E. Mueller              |
| Clifford E. Lee         | University Women's Club |
| Lieut. D. J. Lubert     |                         |

##### Special Gifts:

|                                            |         |
|--------------------------------------------|---------|
| Anonymous for Dr. Sandin's Cancer Research | \$50.00 |
| Dean W. Scott Hamilton—Scholarship Fund    | \$50.00 |

|                                       |            |
|---------------------------------------|------------|
| Total Subscriptions to date this year | \$3,542.04 |
| Total Subscriptions during 1944       | \$2,820.22 |

May 19, 1945.

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\* Friends of the University are those who subscribe five dollars a year or more to provide scholarships and research facilities, extras, for the University. They receive *The New Trail* without further subscription—Ed.



## *Alumni Notes*

### *Calgary . . .*

On Friday, April 13 last, sixty-five members of the Calgary Branch, openly defying the fates, attended the annual meeting, a dinner held at the Palliser Hotel, with Mr. J. Saucier '24, '26, presiding. The toast to the University was proposed by Harold Riley jr., '35, and was replied to by Lawrence Alexander '32. In reporting on the year's activities, Howard Young '42 pointed out that, following the departure of the president, Mr. R. McMeekin '41, and the secretary-treasurer, Mrs. Fred Millar '41, Miss Flora Macleod '37, '39 (Toronto '42) and he had taken over their duties. Balloting for officers resulted in the election of the following:

President: L. L. Alexander.

Vice-President: Harold Riley Jr.

Secretary-Treasurer: Lois Barnes '42.

Executive Committee: Ruth Gorman '37, '39, Bessie Sidorsky '41, Helen Smith '32, Byron Anderson '43, Owen Kelly '34, '40.

Following a report by Mr. Alexander of the proceedings of the February meeting of the Council, an inspirational talk was given by Mr. R. J. Needham. The festivities were wound up by a dance in which the Green and Gold was joined by the Green and White of Saskatchewan.

\* \* \* \* \*

Taking advantage of the presence in Calgary of Dr. W. H. Alexander, the Branch held an informal meeting on June 3rd at the home of Mr. ('37 '39) and Mrs. J. C. Gorman (née Ruth Peacock '37, '39). About sixty persons enjoyed the opportunity to fraternize over the tea-cups and to listen to a talk by Dr. Alexander on the San Francisco Conference.

\* \* \* \* \*

### *Drumheller . . .*

Because of the lack of space in the April issue, details of the formation of a vigorous local Committee of the Association at Drumheller could not be published at that time. However, the Red Deer river city is now definitely on the alumni map. Late in January some twenty graduates (accompanied in several cases by their wives) met at dinner. During a short business meeting which followed, resolutions to organize a local committee and to send a representative to the Alumni Council were passed. Those present agreed to a proposal for a later meeting to which all University graduates in the vicinity would be invited. An executive committee was named as follows:

Chairman: N. F. Bell '18.

Secretary-treasurer: G. L. Kidd '16.

Representative to Alumni Council: J. F. Watkin '37, '39, '41.

Members: E. H. Read '29, '33, H. Wilton-Clark '25, and George Carter '44.

\* \* \* \* \*

*With the Services . . .*

The following bits from overseas letters are representative of the many messages received since the last issue. The pleasure expressed in the first one is characteristic of them all.

"The Deacon," i.e. S/L Rev. William P. Irving, '40, J10320, 436 Sqdn., RCAF, South East Asia Air Forces, writes: "The carton of Sweet Caps. arrived today when I was down to my last pack of Canadian cigarettes. If you had ever smoked those made in this part of the world, you would know just how welcome they were. Even more important, however, is the knowledge that you are remembered. We really have no complaints. Weather is perfect—the sun never fails to shine (sometimes wish it would). Temperatures are well over the century mark a good bit of the time. The most important article of clothing is the hat—the rest doesn't matter! To compensate for the heat, we have really wonderful swimming, good food, and good fellowship. Easter services were thrilling from my point of view. The altar was covered with tropical flowers, the big open marquee was packed, and the men sang whole-heartedly." . . . Engineering alumni will remember Llewellyn Weekes in the civil laboratory. K 34826, Sergeant of No. 2 Film and Photo Unit, No. 3 Cdn. PR Group, CAO, he writes: "We have moved over a lot of places and countries, from the beaches of Normandy up to the Rhine to our present station in Brussels." Readers of the June number of the *Canadian Geographical Journal* will be interested in a picture of this correspondent on page 278. . . "I am just on my way back to the Unit after a few months in England recuperating from a shot in the arm," says Lieut. Jack Reynolds '42, of No. 8 Cdn. Field Squadron, RCE . . . F/L J. H. Young '41, C10856, 148 Wing B.L.A., RCAF overseas, says: "Life in France and Belgium has proved of considerable interest, especially the study of customs, morals, architecture, and economics. Subconsciously one becomes a connoisseur of corned beef, spam, stew, perfumes, and champagne. Would still prefer to be back on the campus, especially when the Med-Engineer fights were the biggest battles this generation had seen." . . . "The 300 cigarettes have just reached me," says Lieut. Bill Strojich '36, '40, "after apparently travelling the length and breadth of England and Europe—I trust that by next Christmas I may again be able to attend the Alumni gatherings." . . . Capt. John R. Fowler '42, 24 Cdn. Field Amb., CAO, has been travelling at Government expense across Italy, on the Mediterranean Sea, through France, Belgium, and England, and is now stationed in Holland just two hundred yards from Jerry (March 6th) . . . "I saw the marvellous ruins at Paestum, Pompeii, the Vatican, the remains of Cassino, the Colosseum, Pantheon, and the leaning tower of Pisa. Through Belgium we saw Ypres, St. Julian, Hill to Armentières (without the mademoiselle). My education in this country (Holland) will be complete when I see fields of tulips." . . . Before writing "30" to this section of the "notes" may I urge every overseas man, as soon as he is certain of returning, to notify me. Please help us to get this magazine directly into your hands by giving at the same time a Canadian address. Many thanks indeed!

*Personalia . . .*

In the recent Dominion elections I noticed that at least three of our members were elected, namely, J. H. Blackmore '13, for Lethbridge (Social Credit leader in the last parliament), "Rosy" Whitman '23, for Montreal Mount Royal (Liberal), and Lieut.-Col. "Doug" Harkness '24 for Calgary East (Progressive Conservative). Are there others? . . . The most clannish (in the nice sense) class I know is that of 1912. Recently my wife and I were honored by being invited to a tea-party reunion to meet Dr. W. H. Alexander, a more-than-honorary member of that group. Twelvers present were, Miss Ethel C. Anderson, Mrs. "Libby" Elsey (née Lloyd), Mrs. Agnes Teviotdale (née Wilson), Mr. L. Y. Cairns, K.C., Mr. James R. Drysdale, Dr. Stacey McCall, and Mr. A. E. Ottewell, with Mrs. I. F. Morrison '13, Mrs. McCall, Mrs. Ottewell, Mr. Morrison and Lawrence Alexander '32, newly-elected president of the Calgary Branch. The day after, I had the pleasure of a long chat with Dr. Alexander whose knowledge of Alberta alumni is wide and accurate. Here are just some of the items he had garnered in visiting seven Canadian cities recently, as well as others concerning California Albertans: Sig. Nielson '22, '24, is practising law in San Francisco, specializing in corporation law; Bob Lamb '23, the same except that his specialty is the law of medical cases; Clarence Tookey '20 is Chief Actuary for the Occidental Insurance Co. in Los Angeles; Gwen Toby '26 (M.Sc. McGill) is in the Department of Biochemistry at McGill and Assistant Warden of Royal Victoria College; Lieut.-Col. Bill Line '22, '26, Ph.D.(Toronto), and Major K. C. MacKenzie '27 are both in the Directorate of Personnel Selection of the Canadian Army in Ottawa; and Mrs. Oliver Westguard (née Margaret Wallis) '38 is living at 700 Castro St., San Francisco, 12, California. Dr. Alexander may live in California, but he is still a staunch Albertan at heart!

\* \* \* \* \*

1923-1937

Of my own class I mention first "Len" Huskins '23, '25, for some time professor of genetics at McGill, who is moving to the University of Wisconsin to become professor of botany there. He was awarded an 1851 Exhibition Scholarship in 1925 which he held at the University of London. Mrs. Huskins was Margaret Villy '22 . . . Of Andy Hnatyshyn '23 I can only record that he has for many years practised his profession of mining engineering at Luscar, Alberta.

. . . By the way, my first intimation about the Huskins move came from Bert Rawlinson '27, associate professor of anatomy at his Alma Mater . . . "Even here in St. Thomas (Ontario) one finds U of A folks," writes Mrs. H. J. Thurlow (née Jean McKittrick) '25. "Recently I had a nice visit with Reta Swain who attended Alberta in 'those good old days!' She is now teaching music at Alma College. I hear that F/O Dora Newson '24, '31, is at T.T.S. not far away, but I haven't seen her yet" . . . Eva R. Younge '30 says, "I have been teaching at McGill and at the Mon-

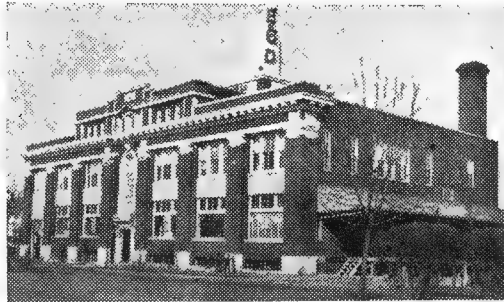
treil School of Social Work this year and shall be at the latter institution this summer." The address on her letter was 3600 University St., Montreal, 2 . . . Not long ago F/L Max Crosbie '33, '36, dropped in for a chat. He was filled with admiration for the fortitude of Londoners. Max is due for congratulations on his recent marriage to Wren Helen May Cramond . . . A graduate of 1934, L. A. Broughton is, very briefly, Inspector of Schools at Lac La Biche, Alberta . . . "I am at present general superintendent of production at this cordite and TNT factory," says John Shipley '35, '36 (c/o Defence Industries Ltd., Nobel, Ontario). "Another alumnus, R. M. Collins '33 is the works manager and others on the staff are Frank Kinahan '33, Bill Pegler '40, and Ed Barlow '40" . . . A recent visitor to my office from Trail, B.C., was Elvins Spencer '36 who previously had been engaged on some highly hush-hush chemistry elsewhere, and is now with the Consolidated Mining and Smelting Co. He mentioned his sisters, Edith '38 (now Mrs. G. L. Osberg), working with the National Film Board, and Hope '41, formerly a corporal in the RCAF (W.D.) at Prince George, B.C. . . . Julia Gibson (née Tuttle) '37 writes from 295 View Royal Ave., Victoria, B.C., to say, "My husband, Bob Gibson '36, is in Burma, but I always forward *The New Trail* to him. Every good wish to your, or I should say our, Association."

\* \* \* \* \*

The alumni office badly needs a business manager as several alumni have found out recently when "dunned" for fees. They write in to quote a receipt number or to say that they are Friends of the University in good standing; the graduate records clerk and I drape ourselves in sackcloth, stand in the corner like Alexander the Small, and resolve to do better. However, when the five-spots come in for the Friends, we always paw around hopefully to see if there's another dollar for us (in the meaning of Mrs. Gibson's pronoun above). If a mistake is made, please draw it to my attention—don't go away mad!

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1938-1944

Assistant research professor Bert Lang '23, '26 of North Laboratory kindly allows me to quote from a letter written by Alan Meldrum '38 who is now associated with British American Oil Co. (Box 81, Oakville, Ontario). He had previously been with Algoma Steel at Sault Ste. Marie. Alan spoke of the following: Gordon Foucar '35 (now married) of Polymer Corp., Sarnia, also previously with A.S.Co.; Douglas MacKay '38 (married), Aluminum Co., Arvida, P.Q.; "Jock" Cameron '35 with Welland Chemical Co., Niagara Falls, Ontario; Doug Caldwell '37 (and Hazel, née Sutherland '36); and Lawrence Davis '34 also with B.A.Co. . . . During two years spent in India with the Air Force, F/O S. H. Ward '39 read the University publications "from cover to cover." Now back in Canada, Mr. Ward was recently married and may be addressed c/o Abasand Co., Fort McMurray, Alberta . . . My second note concerning class '39 is a sad one and relates simply that after being trapped in Germany at the outbreak of war and spending all the years between, virtually a civil prisoner, Margaret Scotland had been killed in an Allied bombing raid only five days before American troops reached the town . . . Jean C. Pain (née Graham) '41, wife of F/O T. E. Pain, writes from Winnipeg, but by now is probably in Calgary (3416 6th St., S.W.). She refers to Dilys Jones '41 who is working at the military hospital, Deer Lodge, and then to the advent of Michael Thomas Pain, about whom she says, "We are already bickering amiably over which courses he will take at U of A in—say—1963!" . . . M. A. Bomerlan '41, 11213 92 St., Edmonton,

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has heard of a class mate, David K. Larmour, now in Tucson, Arizona, "where they are still having winter weather with the thermometer standing at 90° in the shade" . . . Another correspondent of Bert Lang (North lab.) is Electrical Lieut. D. W. Clarke '41, '43 (HMCS St. Thomas, c/o FMO, St. John's, Newfoundland). He had spent some leaves in the old country. With Charlie Hurst '36, he went to Glasgow and Edinburgh. In London he heard a concert at the Royal Albert Hall, "the first in about a year, as well as the odd V-2." Charlie and he looked over Glasgow University hastily: "We talked with a Latin professor who disapproved of the whole business!" . . . Congratulations to these Ph.D's just granted by McGill University: Norman Legge '42, '43 (Mrs. Legge was Jean Hutton '41), John Nelson '39, '41, and Robert H. Betts '42, '43. Norman wrote from Apt. 8, 1478 Mountain St., Montreal, in May, but did not mention the forthcoming honor . . . From Mrs. G. B. Thorn of Edmonton I learn that her son, G. D. Thorn '43, M.Sc. (Queens) '44, and his wife (née Gwen Daw '42) are researching for the summer at the Memorial Hospital, New York City . . . Finally I have appreciated notes about *The New Trail* (with straw for the bricks) from Judith M. Ree '43, Camrose Lutheran College, and Mary Corbett '44 of Apt. 41A, 1416 Mountain St., Montreal . . . P.S.—Mustn't close without one reference to 1945: Alf Harper, able retiring president of the Students' Union, is the holder of the Maple Leaf Milling Scholarship at the University for the next eighteen months or so. More about the rest of the new lot later. Good-bye for now.

Sincerely,

GEOFF.

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